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FOOD ECONOMY IN A UNIVERSITY DORMITORY MANAGED AT MODERATE COST[1]

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DEPRESSION conditions naturally quicken interest not only in food costs but also in the loss of food money through edible wastes. In spite of this fact, few data upon the costs and nutritive values of wastes are available.

Among the more admirable of the dietary studies on record are the very early ones done under the direction of Atwater. We cite the study carried out by Wait in 1895 at the University of Tennessee (1). The calculations were made from food purchased, taking account of the inventories of food on hand at the beginning and end of each period, and deducting the waste. Both kitchen and table wastes were collected, taken to the laboratory and there weighed and analyzed. Weights and percentages of protein, fat and carbohydrate of the total food wasted were reported.

In more recent dietary studies it has been the custom either to circumvent the waste item by basing all calculations upon the food as served and weighing back uneaten portions, or to *estimate* the waste and to deduct it from the dietary calculations made upon the food as purchased. Both of these methods were used and the results compared by Smith and Biltz (2), working at the University of Chicago Clinics. They found that the calculations of caloric values based upon the food as purchased checked those made upon the prepared food basis within 10 per cent. A waste factor of 25 per cent was applied in computing nutritive values by the first of these two methods.

A conservative, minimum figure to allow for waste appears to be 10

[1] Received for publication August 28, 1933.

per cent. This amount was deducted in recent dietary studies on farm families made by Brown in Utah (3) and by McKay in Ohio (4). The 25 per cent allowed by Smith and Biltz seems an unusually high deduction for waste, although Rose assumed 20 per cent in her calculation of the dietary of a group of hospital children (5).

A bibliography of references to reports in which wastes were either estimated or determined experimentally is given by Smith and Biltz (2). A recent study which should be added to such a list is that of Benedict and Farr (6). These investigators have introduced a new method for determining caloric values of foods and have applied it to waste as well as to other food studies. The samples are burned in the oxycalorimeter and caloric values are determined indirectly from the volumes of oxygen used. It is necessary to determine the nitrogen contents of the same foods in order to make allowance for the volumes of nitrogen liberated during the combustions.

The present report is based upon data collected by the writers at a women's dormitory of the University of California at Los Angeles. The purpose was to make calculations of the nutritive values of all foods consumed during the experimental periods, basing the calculations upon the foods as purchased and the weights of food wastes. Inventories were, of course, taken at the beginning and at the end of each period. Since there were 105 students in the dormitory, the amounts of food handled were rather large and it was necessary to choose short periods for the study. March 16 to 23 and April 16 to 23, 1932 were chosen. All food materials discarded, classed as edible and inedible, were weighed each day.

PROCEDURE

Wastes were collected in the kitchen in the manner most convenient for the employees and for those doing the weighing. The garbage was put into special containers according to source and type. The table waste, scraped from the plates, was classed as edible except for bones, squash skins and potato skins.

The dietary calculations were made by the long, or item by item method recommended by Rose (7). It was thought that this method, although more laborious, would give more reliable results than an abbreviated method by which food weights were so adjusted that nutritive values might be calculated for a whole group of foods at once.

The requirements of the "average" woman living in the hall were computed for comparison with the food values furnished by the dietary.

The cost of the dietary was computed from the records of weights and prices on the bills and inventories.

RESULTS

a. Foods used

Table 1 shows the results of the calculations of the nutritive values of foods used during the experimental periods. No allowance was made for inedible waste, since the calculations were, of course, made upon the edible portions of foods.

TABLE 1

Total nutritive values of foods used

	I PERIOD	II PERIOD
Calories	3,780,015	2,276,980
Protein, grams	92,701	65,507
Calcium, grams	519	655.6
Phosphorus, grams	1,362.4	1,003.7
Iron, grams	13.63	11.55
Vitamin A (units)	3,817,470	2,870,728
Vitamin C (units)	140,875	195,323

TABLE 2

Weights of food wastes, of edible food and of total food used

	I PERIOD	II PERIOD
Total food used, pounds	5,068.2	3,355.8
Total waste, pounds	1,213	926.6
Edible waste, pounds	547.5	477.8
Inedible waste, pounds	665.5	448.9
Total edible food, pounds	4,402.7	2,906.9

b. Waste

From the weights of waste it was possible to calculate the percentage of edible and inedible food in relation to total food purchased. The total edible food was computed by subtracting the inedible waste from the total pounds of food used. Waste values are compared with food weights in table 2 and the percentile relations are shown in table 3.

It seemed of interest to estimate the nutritive values of the edible waste, assuming that the nutrients in it bear the same relation to one another as in the total food used. Table 4 shows the results of such a calculation.

TABLE 3

Percentages of food wastes relative to total food used and to edible food

	I PERIOD	II PERIOD
	per cent	*per cent*
Total waste of total food	23.9	27.6
Inedible waste of total food	13.1	14.2
Edible waste of total food	10.8	13.4
Edible waste of edible food	12.4	16.4

TABLE 4

Total values of nutrients wasted

	I PERIOD	II PERIOD
Calories	468,722	373,425
Protein, grams	11,495	10,743
Calcium, grams	64.4	107.5
Phosphorus, grams	168.9	164.6
Iron, grams	1.69	1.89
Vitamin A, units	473,365	470,800
Vitamin C, units	17,470	32,030

TABLE 5

Relative costs of the various classes of foods used

FOOD GROUPS	I PERIOD	II PERIOD	PERCENTAGE DISTRIBUTION		
			Standard	I Period	II Period
	dollars	*dollars*			
Milk	63.65	41.20	20+	18.25	15.60
Cereals	32.24	20.22	20+	9.24	7.65
Fruit and vegetables	89.34	60.23	20±	25.60	22.80
Fats	28.02	25.90	20−	8.05	9.80
Sugar	8.20	6.42		2.35	2.44
Eggs, cheese and meats	94.02	96.44	20−	26.96	36.1
Miscellaneous	33.18	13.73		9.8	5.2
Totals	348.65	264.14	100	100	100

c. Cost

Cost constitutes an important part of a dietary study if one is to have a thorough understanding of the adequacy of the diet in relation to economy. For this reason the cost of all items of food used during each of the eight day periods was calculated. Table 5 indicates the distribution of the money spent for food. A comparison is made with the stand-

ard used by the United States Food Administration, which is the allotment of food money endorsed by Sherman (8).

Within the first period 2,686 meals were served and within the second 2,196. The costs per meal were $.1298 and $.1203 for the two periods respectively. Multiplying by three gives food costs per person per day of $.389 and $.361.

d. Nutritive requirements

Eighty-nine women or 85 per cent of those in the dormitory gave their coöperation in a study of nutritive requirements. Their heights ranged from four feet, nine inches, to five feet, ten inches; their weights from 78 to 180 pounds (average, 126.5) and their ages from 17 to 25 years.

TABLE 6

Nutritive requirements per person per day compared with nutritive values of food consumed

NUTRIENTS	ESTIMATED REQUIREMENTS PER PERSON PER DAY	FOOD CONSUMED PER DAY	
		I Period	II Period
Calories	2300	3699	2501
Protein (grams)	58–85	91	75
Calcium (grams)	0.53	0.51	0.75
Phosphorus (grams)	1.0	1.34	1.15
Iron (grams)	0.015	0.013	0.013
Vitamin A (units)		3735	3280
Vitamin C (units)		140	225

Energy requirement, besides being based upon age and size, is also dependent upon activity. Six representative women gave estimations of the time spent in sleeping, eating, walking, attending classes, studying and taking light and severe exercise. From the data obtained, their requirements were found to range from 15.2 to 25.3 calories per pound per day, with an average of 18.2. This multiplied by the average weight (stated above) indicated a caloric requirement per person per day of 2300. The other nutritive requirements were estimated on the basis of calories and followed the recommendations of Rose (7). Table 6 makes the comparison between the food values consumed per person per day for each period and the estimated requirements. The nutritive values of food used (table 1) were corrected for waste (by subtracting the values given in table 4). The values of food consumed per person per day in each period were determined by dividing the total nutritive values of food consumed by the number of three meal days.

DISCUSSION

The last table indicates that the dietaries of the two periods furnished slightly less than the minimum requirement of iron, adequate calcium, a slight excess of phosphorus and an abundance of protein and calories. The vitamin units were recorded in spite of the fact that no definitely quantitative statement can yet be made regarding human requirements. The numbers of vitamin A units were somewhat smaller than the range (5000–10,000) found by Gillett and Rice in a study of some excellent dietaries in New York City (9).

The menus covering the two periods indicated a well-chosen variety of foods. Proteins were obtained from many different sources; fruits and vegetables were served in abundance; and milk was offered at practically

TABLE 7

Relative caloric values of various classes of foods used

FOOD GROUPS	PERCENTAGES RECOMMENDED BY ROSE (7)			PERCENTAGES CONSUMED	
	Low income	Moderate income	High income	I Period	II Period
Milk	18	13	16	13.6	14.5
Cereals	40	30	20	23.6	18.1
Vegetables and fruits	12	15	20	15.2	14.5
Fats	12	17	18	17.9	23.8
Sugar	10	10	10	16.2	11.9
Eggs, meats and cheese	8	15	16	8.4	13.1
Miscellaneous				5.1	4.1

every meal. The students were allowed second helpings if they wished them.

The costs were very moderate, although they were somewhat above those of low-cost dietaries especially designed to meet emergency conditions. Probably the nutritive requirements of the group could have been met at a lower cost, but the menus might have been less pleasing.

From table 5, it can be seen that the costs of cereals were low in proportion to the amounts spent for meats and eggs and for fruits and vegetables. Since fruits and vegetables were cheap in relation to meats in California, this expenditure of money for them indicated an abundant supply. Table 7 shows the distribution of calories among the foods used. In both periods the numbers of calories from fruits and vegetables were greater than those from meats and eggs, and during the first period were

almost twice as great. A slightly larger percentage of calories from whole grain cereals in both periods would doubtless have reduced the cost and increased the vitamin B value of the dietary.

The amount of waste, although above the ten per cent minimum, was not excessive. Atwater and Woods, in their comments upon the dietary studies by Wait (1) at the University of Tennessee, note that at the college clubs studied in Tennessee 8 per cent of fuel value was wasted, in Missouri, 9 per cent, and in Connecticut, 12 per cent. Macleod and Griggs (10) found a 10.6 per cent edible and a 15.6 per cent inedible waste in a study made at Vassar College in 1918. Benedict and Farr, reporting upon the dietaries of University of New Hampshire fraternity and sorority houses, stated that 12 to 21 per cent of the calories served were wasted. They attributed this large waste of well-prepared, well-served foods to the consumption of extra foods, which the records show to have amounted to from 13 to 29 per cent of the total energy intake (6). While quantitative data upon between-meal consumption of food were not obtained from the subjects of the present study, a questionnaire showed that 50 per cent of them seldom ate between meals. The other 50 per cent supplemented the dormitory fare "occasionally" or "frequently." It is hoped that depression conditions may be effective in drawing the attention of university students to the desirability of spending less money for supplementary foods, thereby cutting down table wastes and improving their own general nutritive state.

SUMMARY

A dietary study was made over two eight-day periods in a dormitory occupied by 105 university women. Nutritive values of the foods consumed were determined from foods listed on bills and inventories, deducting the values of foods wasted. All wastes, edible and inedible, were weighed during the two periods and the food values of the edible wastes were estimated. The following observations resulted from the study:

a. The weights of edible waste were 12.4 and 16.4 per cent of the total weights of edible food.

b. The amounts of inedible waste were large, indicating a high vegetable and fruit content of the diet.

c. The cost of the food was moderate ($.36–$.39 per person per day). The amounts spent for meat were relatively high and for cereals, low.

d. The dietaries were shown to fulfil the food requirements of the group and the menus were highly satisfactory.

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THE HEALTH OF CHILDREN AND THE DEPRESSION[1]

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In the early days of the depression when its effect on the health of children was not clearly evident, the experience of other periods of stress, particularly in some of the European countries during the war and in the lean years following it, warned us of what might be likely to happen if hardship continued over a relatively long period of time. We saw the small allowances for relief in many cases—amounts that could not possibly buy adequate diets for growing children—and common sense told us that if such diets persisted over a long period of time the results in terms of failing health and vitality were inevitable, particularly for children.

The experience of European countries that had a prolonged shortage of food during the war, was a mass demonstration not only of what may happen when children are deprived of vital foods for long periods, but also of the fact that it takes time for the effects of hardship to be recorded in the physical condition of large groups of children. Of the many studies of children during this war period, the majority of those made in the early years either showed harmful effects that were not statistically significant in degree, or gave conflicting results. But as the food shortage continued, the evidence became unquestionably significant. For example, although a study made in Germany and Austria in the early years of the war suggested that the average weight and length of children at birth were tending to become lower, studies made during the later years of the war gave definite evidence of lower birth weights and lengths. Again, in the early years of the war in Germany and Austria some observers recorded an appreciable decline in the height and weight of school children as a result of food shortage; others reported that the growth of children was progressing normally on the whole, in spite of the war. With the continuance of the war, however, evidence of malnutrition and underdevelopment became more and more pronounced. There were also an increase in nervousness, a lowered resistance to infection, and a marked increase in rickets and in the incidence and fatality of all forms of tuberculosis and other diseases. In England, where the universal shortage of food was not so marked as in Germany and Austria, a study of 1,000 cases showed no successive falling off of average birth weight and length.

[1] Presented before the American Dietetic Association, October 11, 1933.

There have, of course, always been groups living among us under conditions of economic stress. What happens to such groups has been brought out over and over again in case stories of individual families. Studies of conditions of child health among the various social and economic groups of different communities in so-called normal times, indicate distinct associations between family income and such items as infant mortality, quality of food, nutritional condition of the children, and certain types of physical defects.

Conditions preceding the present depression were quite different, in many ways, from those of others that have occurred before. We have to keep before us a picture of our rapidly changing social and economic life in considering the problems of child health in relation to them: the generally higher standards of living that developed during the years of prosperity; an ever-increasing mass of knowledge concerning the nutritive needs of the body and the foods which most adequately and economically supply these needs; the continually advancing knowledge of the cause, treatment, and prevention of disease and the expanding efforts made by communities, through such agencies as health departments, schools, hospitals and many private health and welfare organizations, to make this knowledge available to all groups; and the development and expansion of the concept of social service to include the administration of relief to provide adequately for the health and growth of children. In addition, the past decade has seen the development of community activities of far-reaching importance for the health of children. I am thinking of such things as playgrounds, recreation centers, and summer camps.

We have, then, health departments safeguarding the sanitation, milk, and water supplies of the community, and in other ways controlling communicable disease. They also sponsor, to a greater or less degree, specialized measures essential for the protection of the health of children—such work consisting of prenatal and child health conferences, distribution of literature for parents on the care of children, immunization of young children against diphtheria, and vaccination against smallpox and when necessary typhoid fever. In many communities, where this work has not been developed by the health department, it has been done by private organizations, usually visiting nurse associations or infant welfare societies. School health work has developed tremendously. In many cases such work involves the medical examination of school children, with a far-reaching nursing service to help secure the correction of defects and to get the coöperation of the home, so that the health of the children may be improved. Health education and education for

family life have assumed an increasingly important rôle in the school curriculum, and with them intensive nutrition work, studies of food values, and special feeding projects have developed in a large number of schools. With the growing efforts to protect children from too early labor and its hazards, there has been an increasing tendency, during recent years, to have large groups of children examined before they are given employment certificates, and many have been refused certification until their physical condition warranted it. Hospital facilities to care for sick children have increased. In many communities special provisions have been made for the care and education of handicapped children, for example, the child crippled from poliomyelitis, the child with heart disease, and the child with potential tuberculous disease.

What has been the result of the higher standards of living and of this growing effort to apply, practically, our knowledge of preventive medicine and positive health to all groups of children? No one can question that our efforts, clumsy as they often have been, have born fruit. The decreasing mortality figures are striking. Approximately 116,000 more children under 15 years of age were alive in 1930 than would have been if the death rate of 1920 had prevailed. In addition to this saving of life there has occurred something else, less tangible, perhaps, but none the less apparent and satisfying to those of us who have watched children growing up during the past decade. We see fewer bow-legs and knock-knees and other severe forms of rickets, fewer children acutely sick from diarrheal diseases, and on the whole a far healthier, better-developed group of children than we saw 15 or 20 or even 10 years ago.

Yet in spite of the application of modern knowledge of children's needs for the well-being of the individual child, and in spite of the definite improvement in the health of children that has been manifested as a result of it, we really had barely begun to apply this knowledge, as far as the country as a whole was concerned, when the depression struck us. Many children were unnecessarily handicapped by defect or disease. Many communities lacked the facilities just discussed. There were large gaps in the programs for protecting the health of children, even in localities where the best programs had been developed.

The question of most interest, of course, is what has actually happened, during and as a result of the present depression, to the health of children and to the varied elements which we know influence it. A consideration of the evidence will give a practical answer to the problems of child health in the present era of economic stress.

When the depression had lasted for a year or so and we realized that it

was very real and far-reaching, we began to look for evidence as to its effects on children—evidence furnished by the stories of individual families, and evidence of change in certain characteristics of groups. Most of us demand the latter in evaluating a social situation, though it represents but a piling-up of the former to a degree that influences the picture of the whole.

In 1931 the Children's Bureau summarized the reported effects of the depression on child health then available. The most telling evidence came from the mining regions, which had already been severely handicapped for many years. Because of deplorable conditions, in the fall of 1931 the American Friends Service Committee went into some of these mining communities and instituted a school-feeding program. As the first step toward inaugurating such a program they weighed and measured the school children. More than half of 2,381 children examined in five counties (four in West Virginia and one in Kentucky) were found to be 10 per cent or more underweight. Even this large proportion was not necessarily an indication of the total amount of malnutrition present, for underweight is but one evidence; children may be and often are malnourished, though not underweight.

At the same time there were reports from public health nursing organizations chiefly to the effect that in many states nurses had been handicapped by the inability of families to provide themselves with the diets recommended; that many of the preventive programs had had to be curtailed, or eliminated, because of increasing demands for the care of the sick; and that in spite of increased demands for public health nursing services many agencies were faced with reduced appropriations and could not adequately meet the demands for their services.

Dr. Gardiner of the maternity and infancy division of the New York State Department of Health wrote as follows in answer to an inquiry at that time as to evidence of the effects of the depression:

> We are receiving numerous letters of appeal from time to time from expectant mothers whose husbands are out of employment, who have large families, and who are receiving very little in the way of material relief adequate for the needs of themselves and their children. The physicians on the prenatal consultations report that almost every other woman coming to the clinics reports unemployment and shows evidence of getting, not so much an inadequate quantity of food, but an insufficient amount of essential foods—insufficient milk, meats, eggs, and vegetables. Many families report that they are subsisting almost entirely on potatoes. In the case of young children there is not so much evidence of loss of weight because this diet seems to keep it up pretty well, but their color is

> very poor, they are listless, and in some cases show an accentuation of evidence of rickets.
>
> Food-thrift information has evidently penetrated, because to the diet of potatoes they occasionally add cabbage and milk when it can be obtained. From our experience in the children's consultations it would seem that rural families, near or on the farms, fare a little better than those in the smaller cities where we carry on the prenatal consultations.

Dr. Noble of the preschool division of the Pennsylvania State Department of Health wrote:

> Our doctors were especially impressed with the underfeeding and evidence of general need in families brought to our health units this summer, particularly in —— County, which is practically all rural.
>
> This varied with the communities, some places impressing the doctors very much and other communities showing almost no evidence of the unfortunate results from unemployment so far as the nutrition of the children or confidences of the mothers were concerned.

Both these comments in the fall of 1931 are particularly interesting in view of much more concrete findings reported in New York and Pennsylvania in 1933, and to which I shall refer later.

This 1931 summary of the Children's Bureau commented, too, on the tremendous increase in relief expenditures in 1931 over 1930, and in 1930 over 1929. It discussed the fact that reports from many localities indicated that relief given by poor-relief officials and social agencies was considerably below an amount necessary for food alone, and brought out the fact that, although in normal times a large proportion of families under the care of relief agencies have some resources, such as wages from members of the immediate family and help from relatives or friends, in 1931 many of these supplementary resources were obviously not available. Statistical reports submitted by hospitals and public health nursing services also told of tremendously increased demands on agencies administering to the individual and the public health—a demand which it was recognized might be due to an increased appreciation of such services, to diminished financial ability to employ private or paid nursing services, or to an increase in illness. A large increase in visits to clinics and child health centers was reported, and although the amount of days' care given to patients in hospitals had decreased strikingly, the amount given to free patients had increased.

In the fall of 1931, therefore, when we attempted to bring together available facts as to the effect of the depression on the health of children, the evidence as a whole, except for the mining areas, was chiefly of an

indirect nature. On the one hand there was obvious inadequacy of relief, indicating potential rather than actual effects on children, and on the other, a very marked increase in the use of free health and medical services.

Since then we have continued to gather all available facts as to the effect of the depression on children. No actual original study has been made; it has been chiefly a following up of leads, writing to individuals in a position to observe conditions, particularly those who might have reasonably comparable records of physical examinations of children over a period of years, personally visiting some of the larger cities, and assembling literature on the subject. In addition, we have been particularly fortunate in having monthly reports coming to the Children's Bureau as to the extent and use of many health and medical services in a number of metropolitan communities.

What then is the situation now? We were impressed in 1931 with the tremendous increase in the numbers of individuals on relief and in the expenditures for relief. This increase has not abated but continued. Even the recent recession leaves the numbers of people and the amounts of expenditure far above 1931 figures.

Mortality rates continue to be low, and many places still report no evidence of harmful effects on children. One of the reasons for this, we can truthfully say, is due to the many forces which have been intensively at work, counteracting and mitigating the effects of inadequate or barely adequate living budgets. We are doubtless still reaping some of the rewards of the health and educational work of the past. Health departments have struggled to maintain sanitary and communicable disease control in the face of decreasing budgets. Health and welfare agencies, including the schools, have been concentrating to their utmost to minimize the effects of hardship. Welfare centers, baby hospitals, dispensaries and relief agencies, wherever possible, have seen that babies have milk. The schools have done a tremendous amount of feeding, from milk to whole meals for children. The control of childhood tuberculosis has been pushed in many places. Large numbers of children have continued to be immunized against diphtheria. Moreover, we have been fortunate in having no severe epidemics. Although we have reports from some of the rural areas and of late from some of the urban communities of increasing difficulty in getting medical care for the sick, for the most part, at least in the large cities, medical care in hospitals has continued to be available for acutely sick children, and this, coupled with the fact that medical treatment of disease has been improving con-

tinuously, is of significance. Cities have increased their service to the sick poor in their homes. There has been an increase in the amount of free in-patient hospital care, and in free home nursing visits. In the larger cities, too, there has been a tremendous increase in the use of the free facilities of health centers and clinics by parents who formerly sought such advice privately. Hospital out-patient departments have been taxed to capacity and beyond. The eagerness with which many parents now seek advice has been commented upon by physicians in charge of children's dispensaries and health centers who are delighted with the higher grade of intelligence of a large proportion of their patients and with their great desire to coöperate. The mothers accept with eagerness instruction given them on the purchase and preparation of low-cost adequate diets; they ask for protective immunization for their children. A larger group of people than ever before, many of them not actually on relief, are using every available public facility for informing themselves how to meet the situation which confronts them and their children.

In spite of this, however, physicians in charge of children's hospitals and clinics have told me that they see many children who come to them for reasons other than hunger, but whom they find on questioning to be actually hungry; that many children over infancy are showing increasingly the effects of excessive carbohydrate feeding (diet chiefly of rice or beans); that they find themselves utterly discouraged about doing or accomplishing real building up in a number of their patients who need it. They say it is futile to talk to parents about building up weak children with good food, fresh air, rest, and so forth, when the food budget is absolutely limited, when no extra relief is in sight, and when homes are overcrowded, and in winter inadequately heated. They comment on minor behavior problems in children, which they feel are an expression of the worry and tension, and often of the hunger in the homes. They speak of the fact that frequently during the winter for lack or inadequacy of heat at home, they have had to hospitalize children who could ordinarily have probably been better cared for at home. In communities that have little or no organized public facilities for the care of the sick, the problem of medical care for all is reported to be very serious.

In addition to these more or less intangible impressions, there is evidence of a more factual nature. From scattered places where reasonably comparable records of examinations of similar groups of children over a period of years exist, and where these records have been tabulated and analyzed, changes in the physical condition of certain groups of children, especially in 1932, are evident. Reports from health centers in several

large cities indicate a striking increase in malnutrition (based on diagnosis by physicians) among preschool children and also older children who were examined in 1932. Malnutrition has increased markedly among the school children of New York City. The health officer of Springfield, Ohio, an industrial city of 61,000, reports an increase of about 29 per cent in the proportion of children more than 10 per cent underweight in the fall of 1932, as compared with the previous year. The Philadelphia public schools have observed no increase in malnutrition among their children, but an analysis of possible causal factors among groups of their malnourished children revealed poverty as a progressively increasing one since 1929. In Detroit one-third of the malnutrition in a group of children carefully studied was thought to be closely related to the present economic depression. The increasing number of school children in many places who in recent years have failed to have major physical defects corrected, is another indication of what is happening.

From certain rural as well as urban areas, reports indicate that all is not well. From the directors of maternity and child hygiene work in two northern States, New York and Massachusetts, have come comparative reports of defects found in the examinations of rural and semi-rural preschool children during the past four or five years, which would seem to be significant. In rural areas of New York a striking increase in the percentage of total defects, active rickets, glandular enlargement, and abnormal tonsils, was found among the approximately 5,000 children examined in 1932 as compared with 1929, and 1930 or 1931. It is interesting that there has been an actual decrease in the incidence of underweight among these children. (In view of the other physical findings, the latter probably is an evidence not of an actual decrease in malnutrition, but of the use of unbalanced, qualitatively inadequate, usually excessive starch diets so common among those with very small and insufficient food budgets. Children may be clinically malnourished, though within or above the so-called normal weight zone.) Massachusetts reported that the percentage of nutritional defects found in its well-child conference examinations of preschool children, which ranged from 11 to 14 in 1927, 1928, 1929, and 1930, had risen to 19 in 1931 and in 1932. Examinations of school children in all counties of Pennsylvania, exclusive of Philadelphia, reveal a tremendous increase in malnutrition, particularly in 1932 and 1933 over 1931 and 1932—an increase more marked in the mining and factory areas than in the rural areas. A hopeful sign is the fact that a great deal has happened of late which augurs well. The Federal Relief Administration recently announced its

intention to distribute surplus farm products to families of the unemployed, to permit school feeding from relief funds, and to provide extra feeding, when indicated, for undernourished children on relief rolls; the movement to give impetus to the greater utilization by relief agencies of individuals with training in home economics; and finally, the movement initiated in Washington early in October under the stimulus of which states and local communities will organize to make possible a search for undernourished children among families on relief and if possible among families who, though not on relief, are nevertheless in need, and then proceed to make the necessary provisions to improve the conditions of under-par children, particularly as these relate to food and the correction of physical defects.

THE PROPOSED FEDERAL FOOD AND DRUGS BILL[1]

J. O. CLARKE

United States Food and Drug Administration

DIETITIANS are mass consumers of food, experts in designing diets, and artists in directing the preparation of food for consumption. The choice of the science of dietetics as a profession indicates more than an ordinary interest in the public welfare. From the standpoint of daily professional occupation, dietitians have a vital interest in the purity and wholesomeness of the nation's food supply, in truthful representation under which it is sold, and in any measure which materially affects the public interest. There is, perhaps, no more important piece of legislation, judged from the standpoint of public interest, than the efforts of organized society to insure the purity of foods and drugs. Of equal importance, considering the extreme dangers to users, are a control of cosmetics containing poisons, and a ban on false advertising of all three classes of products.

The purity and truthful labeling of foods and drugs have been under control of the Federal Food and Drugs Act for the past twenty-seven years. This Act was the result of many years of effort on the part of the late Dr. Harvey W. Wiley and his coworkers. There is no federal law at the present time, however, to compel truthfulness in advertising, or to prohibit the marketing of dangerous cosmetics. In the years that this measure has been on our statute books it has been actively enforced. More than 22,000 legal actions have been instituted and the great majority of them have been successfully prosecuted in the federal courts. In asking our law-makers to enact a new food and drug bill, we imply no criticism of the framers of the present food and drug law. There is nothing but praise for the pioneers who brought about this revolutionary legislation and inaugurated the broad general policies in connection with its enforcement, but society has changed in 27 years and the conditions under which we now live demand a new measure that will more adequately protect the public interest.

At the time the present Food and Drugs Act became a law, knowledge of the science of nutrition was comparatively meagre. The vital influence on growth and development of certain important food elements had not been discovered. The marketing of cosmetics was not a major industry as it is today. Advertising was not such a material factor in

[1] Read before the American Dietetic Association, October 11, 1933.

American civilization as it is today. The framers of the present law could not foresee the mass of false ballyhoo, the dangerous chemicals occasionally found in our cosmetics, or the attempts to impose on the public through false interpretation of researches in nutrition.

Court decisions have shown that the present Act is not applicable to certain abuses distinctly against the public interest, which officials formerly thought could be reached through its broad principles. Experience has shown that some sections of the present law can be enforced only by the introduction of evidence of a highly technical character difficult for juries to understand, and expensive to produce.

The new food and drug bill has been designed to reach those abuses which were not foreseen at the time of enactment of the present law, to correct abuses against which court decisions have shown this law to be ineffective, and to make more efficient the enforcement of its meritorious features which are now difficult and expensive of accomplishment under its terms. A few specific examples of abuses which can be reached under the proposed measure follow.

ADVERTISING

One of the most important examples of conditions which the new bill will correct is the large amount of false advertising of foods, drugs, and cosmetics. The present Food and Drugs Act is wholly without control over advertising; there is nothing except the advertiser's conscience to compel him to tell the truth. Any intelligent observer need not be told that the conscience of many advertisers is being stretched to the breaking point. The new food and drugs bill gives the public a remedy to compel truthful advertising of foods, drugs and cosmetics, since it prohibits false advertising of these commodities.

As an example of the need for truthfulness in advertising, let us consider a cure-all which has a national distribution in the United States. This product contains approximately 98 per cent Glauber salts and 2 per cent of other mineral ingredients of no therapeutic importance. Glauber salts (sodium sulphate) was formerly used to some extent as a cathartic. Modern medical practice no longer makes even this limited use of it. If you read the label on a package of this mixture you will find nothing about its alleged curative qualities, the reason probably being that the present Food and Drugs Act requires the label to tell the truth. There is no such compelling motive for being truthful in advertising, and there we find our Glauber salts represented as a remedy for such serious diseases as rheumatism, high blood pressure, kidney and

bladder trouble, stomach and liver disorders, acidosis, neuritis, arthritis, constipation, diabetes, gout and lumbago. If this product actually gives relief in any one of these serious diseases do you think that the manufacturer would fail to mention the fact on his label? The only logical conclusion is that they tell the truth only where the law requires truth. In order to sell, at several times its value, a chemical which is no more than an inferior cathartic, the advertiser holds out a hope of relief to sufferers of serious diseases, a relief that by no stretch of the imagination could be obtained from this particular product. When the new measure becomes a law, products of this type will be compelled to tell the truth in their advertisements, in the newspapers, over the radio, and in their handbills. The public will therefore purchase them, if at all, for just what they are and not as a cure-all for serious diseases. This product is only one of hundreds of foods and drugs with labels which tell the truth because the present law requires it, but with outrageous falsehoods characterizing their advertising because the Food and Drugs Act does not compel truthfulness except on the label.

STANDARDS FOR FOOD

Although our present law prohibits adulteration and misbranding of foods, it fails to establish legal standards for food products other than butter and certain canned foods. In order to prove a food product adulterated or misbranded, there must be some recognized standard of composition and quality by which it can be measured. For many foods the Department of Agriculture has adopted administrative standards based on the consensus of consumer understanding and the best commercial practice. Such standards, however, are merely advisory. They have none of the force and effect of law, and compliance with them is wholly voluntary on the part of the manufacturer.

It becomes necessary, then, in every legal action taken against a questionable product, to establish to the satisfaction of the court and jury just what the composition of the normal article is. This done, it is further necessary to prove that the product under indictment deviates from the normal article to a degree constituting adulteration.

Let us suppose that a product involving one of these advisory standards is on trial—one sold as strawberry jam. To the Food and Drug Administration "jam" means the kind of preserves the housewife makes with approximately equal parts of fresh fruit and sugar. In terms of weight, this means not less than 45 parts of fruit to 55 parts of sugar, and an administrative standard based on these proportions has been adopted

by the Department of Agriculture. The Government therefore alleges that a mixture containing less than half as much fruit as the housewife would use is not a real strawberry jam, but an imitation, and should be branded as such. Housewives appear as witnesses for the Government to tell how they make jam. Manufacturers who conform to the standard testify as to the proportions of fruit and sugar they use. In other words, for the Department of Agriculture's jam standard to have any significance in court, it must be supported by competent evidence. Furthermore, its validity must be re-established with every new jam case that comes to trial.

Contrast this tedious and expensive court procedure with that in a butter case, where there is a legal standard, established by a special act of Congress. This requires that butter contain not less than 80 per cent of fat, and production has been stabilized at this figure. If a butter case gets to court the Government has only to prove that the brand in question contains less than the specified proportion of fat, and the case is complete. With authority to fix standards, which will be granted if the new bill becomes a law, a more efficient enforcement will be possible—the public will get a greater return for the money invested in the salaries and expenses of officials enforcing the law, and a greater degree of protection will be afforded the public.

MORE INFORMATIVE LABELS

The new bill requires more complete information on the label of foods than is possible with the present law. One example will suffice to demonstrate this need to you. There are five different species of salmon ranging from "Chum", the poorest and cheapest grade, to "Chinook", the best red salmon that money can buy. Under the present law it is not even required that the word "salmon" appear on the label of a can of salmon. Usually the label does show that the product is salmon, but it does not advise the consumer what kind is in the can, even though there is a wide range in the actual value as between "Chum", for instance, and "Chinook". The new bill when it becomes a law will furnish this information to the consumer and permit more discrimination in consumer purchases. By reading the label it will be possible to buy a low grade salmon, for a low price, or a high grade at a higher price, without buying blindly. More complete information on all food labels will permit more intelligent and economical buying.

Informative labels can also show the presence of ingredients which may cause allergic reactions. Medical authorities estimate that 30 per

cent of the population manifests allergic symptoms on exposure to certain common foods and certain other substances. Many have a pronounced idiosyncrasy for wheat flour, while others are sensitive to cottonseed oil, frequently used in mayonnaise and vegetable shortening compounds, or to eggs, tomatoes, peanut oil. If such substances have to be declared on the label, allergic victims can protect themselves by avoiding the foods which contain them. Incidentally, there will be no danger of the consumer's being misled, by a high-sounding scientific term, into purchasing a food noxious to him, for the common name of the ingredient must always be given.

FILTHY FOOD FACTORIES

Our pure food law should require food to be manufactured, packed and stored under sanitary conditions; but it does not. Unless government chemists and microscopists can actually find filth in the food itself it cannot be condemned, and how would you go about finding gross evidences of filth in butter, for instance, where the flies, dirt and cow dung had been filtered out of the cream before it was churned? I have in mind a certain creamery where our inspectors observed just this condition; the inspector actually took the cream filter apart and removed a handful of dead flies and other filth. True, the insoluble filth stayed behind on the filter, but the soluble filth, which the chemist and bacteriologist cannot readily find, went right on through to contaminate the butter. This state of affairs cannot continue under the new bill, since it places a ban on food manufactured under unsanitary conditions whereby it may become contaminated with filth.

PERMIT FACTORIES

A few years ago a disastrous epidemic of the disease known as botulism was traced directly to the consumption of improperly packed ripe olives. There were numerous fatalities and the industry was threatened with extinction. Danger has since been eliminated through painstaking scientific study and the most rigid manufacturing control. But during those years when the industry was seeking a way out of its difficulties, surely it would have been to the public interest had the Government been able to step in and supervise production. The olive canners themselves would have welcomed such supervision, if for no other reason than to restore public confidence. But there was no statutory authority for such action. Under the new bill, whenever the Secretary of Agriculture finds that any foods, drugs, or cosmetics in interstate commerce may be injurious

to health because of conditions difficult to determine after shipment, he is authorized to put the producer under a license that will insure the maintenance of proper safeguards. If the producer fails to live up to requirements, his license can be suspended until he is willing to conform.

Some time ago an epidemic of stomach disorder was traced to crabmeat packed in a group of factories on the Atlantic Seaboard. The trouble was dirt and filth in the crabmeat factories. In this instance there was a live micro-organism that our bacteriologists could find by a complicated system of examination. After a long campaign and seizures of a lot of the contaminated crabmeat which, incidentally, cost taxpayers a lot of money, we made these factories clean up. We could do this with our present law only by seizing the goods after they had been shipped, and after each small lot had been examined by a lengthy bacteriological method. Control of an industry where human life itself was at stake could only be achieved by this cumbersome and inefficient system. The new bill, however, gives a more efficient and sure system by giving food officials the right to protect the public by a licensing system, to be applied only where conditions surrounding an industry produce food which is harmful to health and if the condition is not adequately denotable by objective examination of the food.

COSMETICS

While the majority of cosmetics are harmless, there is no denying that some "beautifiers" are widely distributed by irresponsible individuals interested only in sales, and having little, if any, technical knowledge of the effect of dangerous chemicals on the human anatomy. Frequently these depilatories, hair dyes, eyelash dyes, and the like, are sold and represented to be not only harmless but beneficial. For example, I might mention a certain so-called "harmless" preparation for dyeing eyelashes, which is marketed by one of many irresponsible cosmetic organizations. It has left a trail of corneal ulceration and even blindness throughout the length and breadth of this country. It has caused serious eye trouble, resulting often in hospitalization of the patient. The manufacturers of this, and similarly dangerous cosmetics, committed no crime under the present Food and Drugs Act when they induced innocent purchasers to use their death-dealing compounds with the assurance that they were safe and beneficial, because the present Act is silent on the subject of cosmetics. These tragedies can be averted when the new bill becomes a law, because it offers the same degree of

protection to the users of cosmetics as it does to the consumers of foods and drugs.

DANGEROUS DRUGS

We will touch briefly on one additional class of substances which will be reached under the new bill—dangerous drugs, or drugs which might be dangerous to health under conditions of use described on the labeling. There is no law now to touch a product such as, for instance, the one containing large quantities of radium which was responsible for the death of a prominent citizen in the East about a year ago. There is nothing to bar products containing thyroid extract and other drugs too dangerous to be taken indiscriminately without the advice of a physician. Most drugs of any importance are dangerous if taken in excessive quantity. This section of the new bill will serve the public interest by protecting the consumer from the ignorant or vicious manufacturer who would prescribe excessive doses of ordinary drugs or sell compounds of dangerous poisons which should not be administered at all, or, if taken, only under the physician's direction.

It is hoped that sufficient interest in the new bill will be aroused to inspire the members of the American Dietetic Association to study this important pending legislation. Only a few examples have been mentioned of the abuses which will be reached under the new bill, but which go unchecked at the present time. A copy of the bill may be obtained on addressing representatives in Congress and asking for a copy of Senate Bill 1944.

PROGRESS IN APPROVED COURSES FOR STUDENT DIETITIANS[1]

MARY DE GARMO BRYAN

THE problem of all professional training is threefold: it must provide specialized knowledge, it must develop technical skill, and it must inculcate that ethical aim which, since the days of Hippocrates and the earliest admission to the bar and the priesthood, has ever been one of the chief characteristics of the learned professions.

The American Dietetic Association has been peculiarly fortunate since its organization in the close coöperation of the colleges in offering much of the specialized knowledge and certain of the technical skills essential to the professional training of dietitians. Professors of home economics have been the leaders in the Association in determining the portion of this information which should be taught in colleges and in establishing the basic courses in the sciences and arts essential to sound knowledge. Much of the specialized subject matter is in tentative form; we are still in the experimental stage as regards course content and the best method of presentation; and opportunities for the development of technical skills are just beginning to be available in many institutions, but the colleges are working constructively in the field of certain specialized knowledge and skills.

It is evident, however, that knowledge specialized for professional service is not isolated information. It is rather the product of broad scholarship focused upon a particular subject. Professional study must be based upon 'a cultural setting, a liberal education which gives breadth of view and that largeness of life which form that very foundation of every kind of professional service.' This is the training for which the college stands. This is the point of view of the Association in its suggestion of college courses prerequisite to the entrance into approved hospital courses. Less than half of the credits of the usual college curriculum are designated; the remainder should be spent in acquiring the intellectual perspective which is essential to the full use of specialized knowledge. The assistance of professors of home economics in all of the inspections, in hospitals near colleges training dietitians, augurs well for the continued development of the college training and the support by the colleges of the efforts of the American Dietetic Association in this field of professional education.

[1]Report of Inspection Chairman of the American Dietetic Association, October, 1933.

While the limitations of time and staff and the nature of the hospital organization make it necessary that the novice come with certain knowledge and skills, it is also true that these are given real significance and that new knowledge and skills are added in the period of time spent in the hospital internship. The student learns not only *why* but *how*. We seem here to have solved the difficult problem of "theory versus practice" with remarkable expediency, by putting theory into practice. Here, under guidance for a time, and then with full responsibility, the student learns to select the knowledge and skills required by each situation. Text book knowledge begins to function. She applies her science of nutrition to the actual feeding of staff, employees and patients, developing it largely in so doing, and keeping it constantly up to date by the seminars and medical lectures offered in all approved courses. She uses her skill in cookery and food service in the preparation or supervision of the preparation of food in main kitchens and diet kitchens, and in its service throughout the hospital. She puts into practice the theories of organization and management in the handling of employees; of purchasing and accounting, in the study of costs, and the buying, under supervision, of food supplies. She selects from her courses in psychology, economics, social science, and methods of teaching, information used in every contact with employees, patients on the floors and in the clinics, and with student nurses. She may be required to use this background of pedagogical training also in assisting in the teaching of medical students and public health nurses.

"The highest ideal of professional training is that the practitioner shall have the ability and the will to be self-directive." The development of self-direction, however, requires wise and intelligent supervision. The student must be guided in the process of the application of facts to particular purposes. The recent lengthening of all courses permits of practice under guidance leading to this self-direction. Practice is recognized anew as of increasing importance in professional training. There is a modicum of scientific knowledge involved in the work of the hospital dietitian, but the feeding of the sick and the well is primarily an art that is mastered from experience in dealing with the people who are to be fed, with the materials involved, and with the persons handling those materials—and perhaps from inspiration. I have been much impressed by the recognition of this on the part of most of the dietitians training students. It has seemed to me that their attitude might well be illustrated by an extract from the Report to the Regents of the State of New

York in 1838.[2] The writer was a member of the staff of the Troy Female Seminary and probably was either Emma Willard or her son.

> Education is doubtless an art, and the reasons for correct practice in this, as in others, constitute its science. But mere abstract principles could no more make a good teacher and head of a school than they could make a good sea captain. Indeed, the situation of a principal of a large school, endeavoring to teach the pupil his own art, is not unlike that of the experienced commander at sea, conscientiously striving to train the young midshipman to his duty. Though he provides for his being thoroughly instructed in all the sciences connected with his profession, yet he does not consider this sufficient. He takes him with him to sea, not as he takes the common sailor, merely to give implicit obedience to his commands, but he bids him observe his own management, how he keeps the ship upon her course, though she may seem to be going off. For all his important movements, he is careful to give him his reasons; and he shows him, as well by his example as his precept, that when storms arise, he must not sit down in despair, or allow at such a moment, his own mind to become tempestuous; but his energies must rise with the occasion, and the helm must be kept, though for a time the sails be lowered, or some of the cargo thrown overboard.

The development of ethical aims rests largely upon the hospital and is being met in fine fashion. Surprising as it may seem, it is no small task to teach graduate students the importance of personal relationships and the application of intellectual accuracy to their work; the significance of loyalty to the objectives of the particular institution and to the professional group of which they are a part; and the recognition of their professional obligations and responsibilities in an economic and social order in which the hospital plays a vital rôle.

Courses for student dietitians should never become "standardized." In a field developing as rapidly as that of the dietitian, new facts and new experiences must be added almost daily. This past year, for example, has seen remarkable development in the training of the student in clinic and in public health agencies affiliating with the hospitals. The hospital dietitian will, without doubt, need additional training in this field on the completion of her hospital experience if she is to become a public health nutritionist, but some experience in this field is essential to her training as a *hospital* dietitian. The hospital is but one link in the chain of the community health and its program must tie in closely with that of other community agencies.

In like manner, the importance of the administrative work of the dietitian has increased in these courses. This is probably due to the

[2] Quoted in Report of Dean of Teachers College, June 30, 1931.

increased economic pressure and the obvious necessity for careful and wise expenditure of the largest single item on the hospital budget.

The increasing use of affiliation to broaden the professional experience of student dietitians, and to enlarge the group on which the responsibility for the professional training rests, is an interesting new development. We are thus early in our professional training adopting the advantages of substituting many masters for one master—advantages long ago recognized in university training. By offering experiences in public and private hospitals, large and small hospitals, we aim to develop women of some breadth of contact and knowledge who can serve with ability in any type of hospital, bringing to it knowledge of the larger field.

There are many other marks of progress of which I can note but a few. Thirteen colleges have now arranged for credit toward the master's degree for work during hospital training. A plan for exchange of assistants for the period of a year, a sort of visiting professorship, is under way in four courses. Special work for graduates of approved courses is available in several institutions and with care this field may be developed in a limited number of suitable centers. Largely through the interest of state associations and the courage of individual superintendents and dietitians, and because of economic pressure, a number of hospitals unequipped to offer approved courses have dropped student training, and the whole association is now concentrating on quality rather than quantity. One of our leading courses has just received two liberal appropriations from commercial concerns for special nutrition research.

Any goal, however, which is constantly moving and widening, as is ours, is not easily attained in all courses. Opportunities for some important parts of the training are lacking in some of them. The quality of the teaching of students in seminars and lectures and in the supervision of practical experience is poor in some instances. The status of the dietary department in the hospital is still far from desirable in some institutions desiring to offer approved courses. We are still, here and there, "using" college graduates rather than offering courses. But we have made *progress* and there need be no fear for future developments in the professional training of students under such dietitians as I have met this year. The support of their efforts by hospital executives, medical staffs, deans of medical schools, and superintendents of nurses is indeed a heartening picture. The dietitians, themselves, have a grasp of their problems and are alert to solve them; they are fearless and impersonal in self-criticism as it pertains to their courses; they have a

courageous discontent with present standards and will push them ever higher; and they have a deep and human understanding of the enormous opportunities in their profession, bordering as it does on many other fields of human endeavor and holding within itself, resources that make for the well-being of mankind.

A COMPARATIVE STUDY OF AMOUNTS AND COSTS OF FOOD AND LABOR[1]

REPORT OF ADMINISTRATION SECTION, WESTERN WASHINGTON DIETETIC ASSOCIATION, 1933[2]

THE section on administration of the Western Washington Dietetic Association undertook a study, to cover the months of January, February, and March, 1933, of food and labor consumption in the food service departments of the various organizations for which its members are responsible. These organizations are varied in type and in the problems which they meet, but it seemed that with their differences in mind, a valuable comparison might nevertheless be made. Unless otherwise stated, each figure in the food consumption study represents an average of three months' performance. The labor study, on the other hand, was usually done only once for each organization.

The following brief description of the organizations involved and of some of their methods and problems, is given to make possible a clearer interpretation of the data.

THE HOSPITAL GROUP

1. A general municipal hospital

The dietary department is responsible for all preparation and service of food, including the major part of the labor involved in service in the wards.

Cafeteria service is used in all personnel dining rooms.

Ice cream is made at the hospital, which explains the cream consumption, which would otherwise be high for this type of institution, and also the fact that no ice cream purchase record is available.

The high consumption of canned fruit is accounted for by the fact that canned fruit is always offered as an alternative to the regular dessert in the cafeteria, and that much canned orange juice is used.

Extremely low milk prices, obtainable because of the large consumption, probably account for the low expenditure for milk.

Canned vegetables rather than fresh must be used to save labor.

Tea for the personnel is made from tea balls. The cost of tea is therefore higher than for similar institutions.

[1] Received for publication, Sept. 11, 1933.

[2] Prepared by Margaret E. Terrell, Ruth M. Lusby, Ruth Walker, under the direction of Mary W. Northrop, Chairman.

TABLE 1

Summary

INSTITUTION NUMBER	MEALS PER DAY	PER MEAL COST			MINUTES LABOR PER MEAL SERVED				MEALS SERVED PER EMPLOYEE PER DAY
		Food	Labor	Ratio: Food/ Labor	Preparation	Service	Cleaning	Total	
A. Hospitals									
1	2032	.076	.035	2.17	2.19	4.04	2.14	8.37	53.9
2	839	.118			No report				
3	354	.076	.030	2.53	4.12	2.64	4.84	11.60	33.7
4	389	.122	.050	2.44	3.21	4.75	6.05	14.01	25.9
5	1027	.071	.031	2.29	2.12	3.06	3.49	8.67	49.0
6	444	.071	.028	2.54	2.02	1.70	2.51	6.23	73.1
7	1015		.059		2.47	2.15	3.16	8.75	46.1
8	636	.073	.042	1.74	2.33	3.69	4.13	10.15	43.8
Average...	817	.087	.039	2.35	2.64	3.15	3.90	9.69	46.5
Median....	636	.076	.033	2.29	2.33	2.64	4.13	8.75	46.1
B. School lunch rooms									
1	*430	*.081	*.037	2.19	2.42	0.43	2.90	5.75	
2	457	.062	.036	1.72	3.80	1.43	1.28	6.51	
3	363	.036	.022	1.63	No report				
4	†485	†.054	†.033	1.63	2.61	3.58	0.88	7.07	
5	617	*.047	†.038	1.24	1.47	0.92	1.07	3.46	
6	569	*.055	†.050	1.10	1.75	2.44	3.83	9.02	
7	480	*.078	†.047	1.66	1.68	4.63	2.78	9.09	
8	476	*.057	†.039	1.46	1.79	3.17	1.61	6.57	
9	162	.045	.026	1.73	No report				
10	127	.046	.030	1.53	2.80	0.89	1.26	4.95	
11	253	.039	†.019	2.05	1.53	1.31	1.16	4.00	
12	213	.038	.021	1.81	0.72	1.04	0.95	2.71	
13	105	.052	†.031	1.68	1.71	2.86	3.23	7.80	
14	149	.044	†.030	1.47	1.51	0.99	2.53	5.03	
15	65	.049	†.035	1.40	2.35	1.65	1.46	5.46	
Average...	330	.052	.033	1.58	2.01	1.95	1.92	5.88	
Median....	363	.049	.033	1.48	1.75	1.43	1.46	5.46	
C. Commercial									
1	128	.100	.081	1.23	4.23	2.28	4.08	10.59	45.3
2	525	.099	.058	1.71	4.62	0.84	1.72	7.18	66.8
3	125	.195	.113	1.73	10.46	8.83	6.09	25.38	15.0
Average...	259	.131	.084	1.56	6.45	3.98	3.96	14.38	42.4

* Average of two months.

† One month only reported.

TABLE 2

Food consumption per meal served

INSTITUTION NUMBER	FLESH FOODS	EGGS	CHEESE	MILK	CREAM	BUTTER	ICE CREAM	CANNED FRUIT	CANNED VEGETABLES	POTATOES
A. Hospitals										
	lb.	*doz.*	*lb.*	*gal.*	*gal.*	*lb.*	*gal.*	*case*	*case*	*lb.*
1	.149	.036	.004	.051	.007	.033		.0023	.0022	.107
2	.174	.030	.008	.045	.009	.032	.006	.0028	.0026	.103
3	.110	.025		.043	.006	.027	.003		.0013	.159
4	.151	.032	.006	.053	.010	.035	.003	.0022	.0029	.102
5	.153	.043	.006	.056	.005	.034		.0008	.0020	.157
6	.158	.037	.008	.082	.002	.031		.0010	.0012	.121
7	No report									
8	.093	.040	.004	.053	.002	.028	.002		.0014	.083
Average...	.141	.035	.006	.055	.007	.031	.003	.0018	.0019	.119
Median...	.151	.036	.006	.053	.006	.032	.003	.0022	.0020	.107
B. School lunch rooms										
*1	.103	.011	.003	.046	.001	.015		.0001	.0002	.058
2	.080	.013	.004	.039	.001	.014		.0006	.0011	.090
3	.029	.005	.004	.029	.001	.007	.025	.0002	.0011	.030
4	.064	.006	.002	.039	.001	.013		.0006	.0008	.069
*5	.076	.006	.005	.039	.001	.007	.008	.0002	.0007	.063
*6	.053	.002	.004	.038	.000	.007	.009	.0003	.0007	.019
*7	.081	.007	.004	.039	.000	.006	.019	.0006	.0008	.058
*8	.035	.007	.004	.073	.001	.012	.013	.0003	.0015	.087
9	.018	.008	.003	.037	.003	.008		.0007	.0011	.069
10	.029	.013	.006	.044	.001	.008		.0009	.0009	.058
11	.013	.003	.002	.041	.000	.008	.004	.0002	.0009	.023
12	.014	.004	.001	.048	.001	.007	.004	.0001	.0004	.016
13	.017	.004	.004	.085	.000	.009	.016	.0002	.0008	.031
14	.013	.004	.003	.047	.000	.006	.002	.0003	.0015	.025
15	.017	.003	.001	.031	.000	.010	.005	.0001	.0008	.037
Average...	.043	.006	.003	.045	.001	.009	.007	.0003	.0009	.049
Median...	.029	.006	.004	.039	.001	.008	.008	.0003	.0009	.058
C. Commercial										
1	.134	.030	.006	.059	.004	.045	.005	.0024	.0032	.160
2	.150	.026	.009	.030	.006	.040	.012	.0026	.0031	.150
3	.294	.048	.004	.038	.009	.061	.011	.0028	.0036	.210
Average...	.193	.035	.006	.042	.006	.049	.009	.0026	.0033	.173

* Average of two months.

TABLE 3

Percentage of food cost for various types of food

TABLE 3

Percentage of food cost for various types of food

INSTITUTION NUMBER	FLESH FOODS	EGGS	CHEESE	MILK	CREAM	BUTTER	ICE CREAM	FRUIT, FRESH	FRUIT, CANNED DRIED	VEGETABLE, FRESH	VEGETABLE, CANNED DRIED	POTATOES	BREAD	COFFEE	TEA	CEREAL	FLOUR	FATS OILS	SUGAR	CANDY	OTHER GROCERIES
A. Hospitals																					
1	20.4	8.3	0.6	10.3	6.9	9.0	—	4.1	12.0	2.7	8.8	1.3	4.4	2.1	0.9	1.1	0.3	0.6	2.9	—	2.4
2	22.2	4.9	0.9	9.7	7.8	6.6	4.6	5.7	6.8	6.5	5.4	1.1	5.9	4.0	1.4	1.1	0.5	0.7	1.3	—	2.6
3	22.5	5.0	0.7	13.2	9.8	8.1	2.3	6.5	5.2	6.1	4.3	1.7	2.4	3.3	0.4	1.4	1.2	1.1	3.0	—	5.0
4	20.3	4.1	0.8	10.4	9.1	4.6	3.0	5.3	5.7	4.7	6.1	1.3	3.7	2.3	1.6	1.5	1.0	0.8	3.6	—	4.7
5	20.6	10.6	0.7	12.5	4.6	10.7	0.6	3.9	5.4	4.2	8.0	1.9	4.7	3.3	0.3	2.6	0.4	0.6	3.2	—	4.2
6	25.0	9.6	1.0	17.6	2.0	9.3	0.6	5.1	5.6	3.2	5.2	1.9	5.0	1.4	0.2	2.3	0.3	0.2	2.8	—	2.9
8	19.1	7.0	0.6	15.2	3.0	7.9	2.4	7.4	7.4	5.1	5.8	1.5	3.7	1.9	0.1	0.8	0.9	0.8	3.4	—	6.6
Average....	21.4	7.1	0.8	12.7	6.0	8.0	2.3	5.4	7.0	4.6	6.2	1.5	4.3	2.6	0.7	1.7	0.7	0.7	2.9	—	4.1
Median....	20.6	7.0	0.7	12.5	6.9	8.1	2.6	5.3	6.7	4.7	5.8	1.5	4.4	2.3	0.4	1.5	0.5	0.7	3.0	—	4.2
B. School lunch rooms																					
*1	18.7	2.8	0.6	19.9	3.3	4.0	20.0	1.7	2.0	3.7	2.5	1.1	10.5	0.4	—	—	0.9	0.8	2.3	—	4.7
2	17.8	4.8	1.0	19.1	3.5	5.4	11.2	1.7	2.3	5.8	5.4	2.0	5.4	0.6	0.1	1.3	1.5	2.1	3.0	—	7.0
3	12.1	2.7	1.9	21.2	2.4	4.0	26.0	2.5	2.3	3.0	7.0	0.7	6.9	0.5	—	0.4	0.6	1.7	2.3	—	1.7
†4	17.3	3.0	0.5	17.1	3.6	5.2	14.4	2.1	3.8	2.7	3.7	1.3	7.2	0.6	—	1.9	1.1	1.0	2.5	—	11.6
*5	16.8	2.7	1.7	23.5	4.0	3.0	14.0	3.7	1.8	3.0	5.2	2.4	9.2	0.5	—	0.8	0.7	0.8	1.9	—	4.4
*6	11.4	0.8	1.0	19.4	0.5	2.5	13.8	2.2	1.5	3.1	3.5	1.1	7.6	0.3	—	0.8	0.4	0.5	1.1	27.1	1.0
*7	15.9	1.6	0.8	13.9	1.1	1.7	20.7	2.8	2.6	3.1	4.2	2.8	7.7	0.2	—	1.2	0.5	1.2	1.5	14.5	2.0
*8	13.4	1.7	0.6	24.5	1.5	3.3	10.5	2.0	1.2	2.1	4.9	1.0	11.2	0.3	—	0.6	0.8	0.9	1.2	15.6	2.4
9	5.3	3.5	1.0	17.0	7.1	4.7	16.4	2.8	6.0	2.5	7.9	1.4	6.1	0.6	—	0.2	1.0	3.0	1.6	—	11.8
10	9.6	5.6	1.8	23.0	5.2	4.6	16.0	2.7	3.7	4.5	6.1	1.4	5.3	1.5	—	0.5	1.4	1.8	4.2	—	5.0
11	5.6	1.4	0.8	35.7	0.7	4.3	7.9	4.4	1.9	1.9	7.0	0.8	21.0	0.7	—	1.1	0.4	0.3	1.3	—	2.6
12	5.7	1.6	0.5	36.8	0.2	4.1	7.7	3.3	0.9	2.8	5.3	0.4	10.8	0.7	—	0.5	0.3	0.2	1.0	16.1	1.3
13	5.0	1.5	1.0	38.0	0.7	3.9	6.4	6.3	1.5	2.8	6.0	0.7	13.2	—	—	0.6	0.4	0.5	1.5	8.5	1.5
14	4.5	1.6	1.0	28.8	0.9	3.1	3.4	5.0	2.2	3.7	8.6	0.7	18.2	—	—	0.5	0.6	0.8	1.5	12.2	2.2
15	3.0	1.3	1.5	28.7	0.5	4.6	8.3	3.0	1.7	5.2	4.9	1.1	18.7	—	—	0.9	0.4	0.6	1.2	11.1	2.9
Average....	10.8	2.4	1.0	24.4	2.3	3.9	13.1	3.1	2.3	3.3	5.5	1.3	10.6	0.6	0.0	0.7	0.7	1.1	1.8	15.0	4.1
Median....	11.4	1.7	1.0	23.0	1.5	4.0	13.8	2.8	2.0	3.0	5.3	1.1	9.2	0.6	0.0	0.6	0.6	0.8	1.5	0.0	2.6
C. Commercial																					
1	19.2	4.3	0.6	10.0	5.0	9.0	3.7	2.6	9.4	5.9	8.2	1.4	6.7	2.5	0.1	2.2	0.7	2.2	3.3	—	3.7
2	17.7	4.1	1.1	6.0	4.9	8.0	6.6	2.0	7.3	7.0	8.6	1.5	3.6	1.6	0.4	0.8	1.2	1.8	1.7	—	16.8
3	28.1	4.1	0.4	5.6	6.3	7.0	6.2	2.7	4.5	9.6	5.5	1.2	1.2	4.0	0.7	1.5	1.4	1.5	2.3	—	4.0
Average....	21.7	4.2	0.7	7.2	5.4	8.0	5.2	2.4	7.1	7.5	7.4	1.4	3.8	2.7	0.4	1.5	1.1	1.8	2.4	—	8.2

* Average of 2 months. † One month only reported.

An acute shortage of labor is felt throughout the department, which shows itself particularly in the time available for cleaning. A kitchen which is too large makes the situation even more difficult than the figures indicate.

2. A general private hospital

Central service is used for all patients. Waitress service is used in the dining rooms.

Meat consumption seems high, probably owing to the fact that this hospital buys meat by the side, while the other private hospitals in the group buy cuts, and also because a great deal of poultry is used.

Canned fruit consumption appears high, probably due to the use of fancy fruit with a low count.

A very large consumption of tomato juice raises the apparent use of canned vegetables, which would otherwise be below the average.

The two figures in table 3 which seem high for this hospital are bread, explained by the frequent purchase of rolls, and coffee, which becomes a larger item of expense than in the other hospitals because it is served three times a day, and an expensive grade bought.

3. A general private hospital

In this hospital a less elaborate food service is used than in hospital number 2. Home canning is a factor in the fruit and vegetable costs. Part of the bread is home-made, which brings about the low bread cost and the high flour cost, and which possibly also increases the fat consumption.

4. A general private hospital

Limited storage and refrigerator space is a decided factor in food costs in this institution. Meat is bought cut, which saves waste and reduces the apparent meat consumption.

Central service is used for all patient trays. Waitress service is used in the dining rooms.

5. A municipal hospital for chronic diseases

Owing to the nature of the institution, the ratio of personnel to patients is much smaller than in the other hospitals. Since the patients are very simply served, and since such a large proportion of the persons served are patients, the food and labor cost are low. Since there is only one dietition for this rather large hospital, poor supervision and consequent waste

probably account for the high consumption of certain commodities such as eggs, butter, and potatoes.

6. A municipal tuberculosis sanatorium

This small unit has a new kitchen conveniently planned. This, and the fact that the personnel are all served at hospital number 5, leaving only the very simple menu for the patients to be prepared in the sanatorium kitchen, account for the low cost of both food and labor, and also for the low labor time.

The large amount of meat used is accounted for by the fact that the patients are very fond of bacon, which is frequently served.

The milk used amounts to 0.98 quarts per person per day, which looks high in comparison with the other hospitals studied, but which approaches very closely the one quart standard set for these tuberculous patients.

7. A municipal tuberculosis sanatorium

No food consumption or food cost records are available for this hospital.

Wage rates have been better maintained during the depression than in the other hospitals studied, which accounts for the high labor cost. It will be noted that the labor time here is the median for the group.

8. A children's hospital

The nature of this institution explains many of its deviations from the average in food consumption. Food quantities in general are low because of the small servings used. The high milk cost in relation to the quantity used is due to the purchase of bottled milk. The fresh fruit cost is increased by the large number of oranges used. The figure for ice cream is incomplete. That for sugar is probably inaccurate.

SCHOOL LUNCHROOMS

Numbers 1 and 2 are lunchrooms in two of the senior high schools of a moderate sized city.

Numbers 3 to 10, inclusive, are lunchrooms in junior high schools. Numbers 11 to 15 are lunchrooms in elementary schools. These schools are arranged in order of size and show a variance in attendance of from 253, daily, in number 11, to 65, daily, in number 15.

The first four lunchrooms listed have a trained manager giving full time. Numbers 9 and 10 have trained managers giving half time to the lunchrooms and teaching home economics the remainder of the day. All the other lunchrooms are operated by central supervision and a combina-

tion cook-manager who directs the other workers and takes care of the stock and records.

Numbers 11 and 15 do not represent the total food consumption of the patrons buying, for the reason that many of the pupils bring part of a lunch from home and supplement it with milk, soup or cocoa.

The percentage of milk consumption is very high, because the milk served in the kindergarten and to the undernourished children is included in the food costs.

The candy is purchased by pupils who do not take lunch at school as well as by those who do. Therefore the percentage does not truly represent the amount of the pupil's lunch money which he spends for candy.

THE COMMERCIAL GROUP

1. A university dormitory

Three meals a day are served to a group consisting entirely of women. The same number are served at each meal.

Food and labor costs are similar to hospital food and labor costs where a given number are served three meals a day.

2. A university cafeteria

This cafeteria is semi-commercial in nature. It serves three meals a day, with a noon patronage which is two-thirds of the daily total.

The large figure under "other groceries" in table 3 is due to the inclusion of such items as jam, jelly, and relishes, which the other institutions have listed under other headings.

3. A hotel dining room

This dining room is strictly commercial. It serves two meals a day and has its largest patronage at dinner.

The higher cost of flesh foods and fresh vegetables, as compared with the other institutions, is due to the type of service and to the fact that the largest per cent of meals served are dinners. The high labor cost is due partly to the type of service and partly to a badly planned kitchen.

We submit these figures with the full realization of their limitations. The number of cases in each group is too small, and their scope too varied for the averages to be considered representative. Averages are therefore given only for convenience in comparison, and not with any thought that they are conclusive.

A STUDY OF JEWISH FOOD HABITS[1]

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For many years interest has been shown in foreign dietaries, and much has been said concerning typical Jewish food habits. Can one say, however, that we have what may be termed characteristically Jewish food in this country? Since the Jew is a cosmopolite, he readily assumes the food habits and dishes of his adopted country and adjusts these with modifications influenced by his racial customs.

In America Judaism is a heterogeneous collection of world-wide nationalities, so that the existence of standardized Jewish foods would apparently seem illogical. German, Spanish, French, Italian, and English Jews, who immigrated to this country fifty to seventy-five years ago, have become firmly rooted here and have Americanized their national food customs to such an extent that these can scarcely be looked upon as characteristic of their original locale. On the other hand, recent large immigrations from Poland, Russia, and Hungary have brought into America people whose memories of "old country" food are still fresh, who still cling to their national delicacies, carefully corrected by rabbinical laws. It is among these recent immigrants that one may logically look for typical and standard foods.

To study this problem, one hundred Jewish families—forty Russian, thirty Polish, and thirty Hungarian—were interviewed and all their commonly used foods separately tabulated. The surveys were first compared as three individual units, and from the inventories the following average food habits for these groups were compiled to include the most commonly used foods, together with the most usual method of preparation.

CONCLUSIONS

The foods of the three groups of Jewish people studied are basically the same, differences being only in the methods of preparation. Russian Jews are inclined to season their foods highly with spices and vinegar; Polish people are partial to sweet foods; while Hungarians lean toward sour, or sweet and sour combinations. But as a whole the same foods

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This paper has been submitted in partial fulfillment of work in Post-Graduate Dietetics Course at Harper Hospital, Detroit, Michigan.

SURVEY OF AVERAGE FOOD HABITS OF RUSSIAN, POLISH AND HUNGARIAN JEWS

CLASS	FOOD	METHOD OF PREPARATION		
		Russian	Polish	Hungarian
Cereals	Farina	in soups; breakfast cereal	same as Russian	same as Russian
	Oatmeal	same as farina	same as Russian	same as Russian
	Cream of wheat	same as farina	same as Russian	same as Russian
	Barley	in soups	in soup; with beans and potatoes, roasted	same as Russian
	Rice	kugel; with milk; meat side dish; soup; stuffing for peppers	kugel; with milk; in soup; stuffing for cabbage	with prunes for kugel
	Buckwheat	meat side dish; pancakes; stuffing for kreplach*	not commonly used	not commonly used
	Corn meal	not commonly used	not commonly used	in soup; breakfast cereal
	German grits	not commonly used	with egg and milk as side dish	not commonly used
	Whole oats	not commonly used	as meat side dish; as milk cereal	not commonly used
Starchy foods	Egg and flour	noodles with milk; cottage cheese; soup; or with egg as kugel	same as Russian	same as Russian
		blintzes,* stuffed with cottage cheese, meat, or preserves	same as Russian	same as Russian
		kreplach, stuffed with cottage cheese, meat, preserves, or buckwheat	same as Russian except buckwheat	same as Russian except buckwheat

	Bread	rye; pumpernickle; white flour and water	rye; pumpernickle; white flour and water—used on Sabbath	rye; pumpernickle; white flour and water
Dairy	Milk	cereal soups; rice and milk; noodles and milk; cocoa; chicory; sour milk	same as Russian	cereal soups; rice and milk
	Cream, sweet	with berries	same as Russian	same as Russian
	Cream, sour	in soup—borsht, beet, spinach, sorrel; with cottage cheese; with egg and flour mixtures	same as Russian	same as Russian
		with raw vegetable, berries, or boiled potatoes	with raw vegetables or berries not commonly used	with lettuce or berries; not commonly used
Vegetables	Potato	with smoked, salted fish; as pancakes; fried, roasted; as kugel; with prunes—tzimas; in soup; with meat—roasted	with borsht; with barley; roasted; in soup thickened with browned flour	as pancakes; fried; as kugel; with meat
	Beets	fresh—borsht;* pickled—relish	borsht—sweet; tzimas—sweet	fermented—borsht; pickled—relish
	Sorrel	borsht	borsht—sweet	borsht—sour
	Spinach	borsht	borsht—sweet; scrambled with eggs	
	Cabbage	with tomatoes—borsht; stuffed with meat—roasted	not commonly used; stuffed with rice—roasted sweet	sour kraut soup; stuffed with meat—roasted—sweet and sour; sweet and sour—strudel
	Mushrooms	dried—in soup; fresh—fried; roasted with meat	same as Russian	same as Russian

SURVEY OF AVERAGE FOOD HABITS OF RUSSIAN, POLISH AND HUNGARIAN JEWS—*Continued*

CLASS	FOOD	METHOD OF PREPARATION		
		Russian	Polish	Hungarian
Vegetables—*Concluded*	Carrots	in soup; tzimas	in soup; sweet tzimas	in soup; tzimas
	Pumpkin	tzimas, soup, pancakes	not commonly used	sweet and sour soup
	Parsnips	tzimas, soup, pancakes	tzimas, soup	soup
	Okra	tzimas, soup, pancakes	tzimas, soup	soup
	Turnips	tzimas, soup, pancakes	tzimas, soup	soup
	Squash	tzimas, baked, mashed	baked, mashed	baked, mashed
	Eggplant	baked—chopped—spicy relish; fried; pancakes	sweet relish; not commonly used	sweet and sour relish; fried
	Radishes	with chicken fat; with cream	not commonly used with cream	not commonly used; relish
	Onions	raw; in all meat and fish cookery	same as Russian	same as Russian
	Legumes	beans—soup; roasted with meat peas—soup lentils—soup	with potatoes as soup soup not commonly used	soup soup with fried onions—as a pudding
	Celery	with sour cream; soup	with sour cream	soup
	Tomatoes	with sour cream; soup	not commonly used	soup
	Lettuce	with sour cream	with meat	with cream, meat

	Peas	with meat; soup	same as Russian	same as Russian
	String beans	with meat; soup	sweet and sour	with meat; soup
	Cucumbers	with sour cream; in borsht	with meat	with meat
Fruits	Dried	prunes—stewed; tzimas; with potatoes	stewed	stewed; tzimas with rice
		apricots, stewed peaches, stewed; white raisins—cakes, strudel, tzimas	same as Russian	same as Russian
	Fresh	all fruits used	all fruits used	all fruits used
Eggs	Raw	whole eggs with flour mixtures; as combining agent for kugel; in borsht; and in gefilte fish*	same as Russian	same as Russian
	Hard boiled	with chopped liver; or chopped herring	with chopped liver; or chopped herring	with chopped liver
Meat	Smoked	salami; corned beef; tongue; bologna; peppered beef; weiners	same as Russian	same as Russian
	Fresh beef, veal, lamb	usually boiled roasted, sweet and sour	usually roasted	usually roasted
		all edible organs; lung—roasted, blintzes; heart—roasted; kidneys—roasted; sweetbreads—roasted; spleen—roasted; brains, liver—fried, baked,—chopped; chittling*—stuffed, roasted	all edible organs; prepared like Russian	all edible organs; prepared like Russian
		feet—cold consomme; with garlic	not commonly used	not commonly used

SURVEY OF AVERAGE FOOD HABITS OF RUSSIAN, POLISH AND HUNGARIAN JEWS—*Concluded*

CLASS	FOOD	METHOD OF PREPARATION		
		Russian	Polish	Hungarian
Fish	Smoked	white fish; salmon; carp; trout	same as Russian	same as Russian
	Pickled	herring; white fish; trout	herring; white fish; trout	herring; carp—sweet and sour
	Fresh	all having fins and scales used as:	same as Russian	same as Russian
		chowder	chowder, sweet	not commonly used
		gefilte—spicy	gefilte, sweet	gefilte, spicy
Fowl		chicken, soup, roast; duck, roast, soup; goose, roast	chicken, soup, roast; duck, soup, roast; goose, roast	chicken, soup, roast; duck, roast; goose, roast
Pastry		thick, heavy doughs made with oil or butter	same as Russian	light rich doughs made with butter
		strudel*	strudel	strudel
		honey-cake with spices	same as Russian	same as Russian
		sponge cake	same as Russian	same as Russian
		cottage cheese cake	same as Russian	same as Russian
		yeast doughs	same as Russian	same as Russian
Preserves		cherries, raspberries, strawberries	same as Russian	same as Russian
Miscellaneous	Fats, oils	chicken, duck and goose fat; suet; butter; corn oil	same as Russian	same as Russian
	Relishes	grated horseradish with beet juice and vinegar	same as Russian	same as Russian
		dry mustard with vinegar	not commonly used	dry mustard with vinegar
		chopped eggplant with vinegar and spices	chopped eggplant with sugar	chopped eggplant with sugar and vinegar

	Pickles	pickles—sour, with salt water, vinegar, garlic, peppers; green tomato pickles; red peppers; cabbage, sour kraut; watermelon; beets	sweet pickles; pickled canteloupe; sweet and sour pears; sweet and sour string beans	sour pickles same as Russian; tomatoes; sour kraut; red peppers stuffed with cabbage; beets

* Blintzes—Pour batter of egg, milk, flour. Thin sheets made, stuffed and fried in chicken fat or butter.

Kreplach—Rolled dough of egg, flour, water. Stuffed, boiled in soup, gravy, or honey. Served with chicken fat sauce.

Tzimas—Vegetable cooked with fat meat, chicken fat, either sweet, or sweet and sour. Usually sweet.

Strudel—Very rich dough pulled into a thin sheet, spread with mixture of nuts, bread crumbs, preserves, oil, rolled, and baked in deep oil.

Borsht—Soup made with cabbage, beets, sorrel, or spinach. Seasoned with "sour salt" (tartaric acid) or sugar, egg, and sour cream. If made with meat, only egg is used.

Gefilte fish—Fresh fish flesh removed from skin. Chopped with raw eggs, apple, soft bread, seasoned with salt, sugar or pepper, skin refilled and the dish is stewed in a deep gravy made of onions and water.

Stuffing—Flour and raw chicken fat.

are used. Thick cereal and legume soups, vegetable soups flavored with sour cream and eggs, or cereal and milk soups are common. Cottage cheese is extensively used in both cooking and baking. Meat, poultry or fish, either fresh, pickled, smoked or salted, is used daily. Eggs, although always appearing on the menu, are seldom used as eggs, but as the combining or seasoning agent of most of the foods—kugel, pancakes, noodles, borsht, etc. Noodles, blintzes, kreplach, and other egg and flour mixtures are exceedingly common. Root vegetables are used either in soups or in tzimas, while leafy vegetables are consumed raw with a sour cream sauce. Desserts are mainly stewed dried fruits or pastries, kugel, blintzes, or kreplach and tea, cocoa, or chicory, depending on whether the meal is a meat one or a milk one. Beverages are tea, cocoa, or chicory, the latter two being cooked with milk.

This, of course, is a picture of the food habits of the "old country Jew just over." But the adaptable Jew soon acclimates himself to surrounding conditions and the Jewish woman is quickly aware of American food customs. Fresh vegetable salads begin to appear; soft-boiled, poached, or scrambled eggs become breakfast favorites; milk becomes a beverage; coffee takes the place of chicory; fresh and canned fruits supplement dried fruits; and fat meats, rich pastries, and an abundance of egg and flour mixtures begin to disappear. Soon an Americanized diet is evolved. Old country culinary habits become rarities and to be used only on occasions as delicacies. What is now typical Jewish food will die out with the older generation and a situation similar to that of the earlier immigrant group will result. Standardized Jewish cooking is disappearing. To further such a study as this we must wait for the next great wave of immigration.

COAGULATED MILK AND ITS DIETARY USES

F. W. SCHLUTZ, M.D.[1]

THE coagulation of milk is a phenomenon that almost anyone today would regard as quite commonplace, and one which it would seem easy to explain. It is an interesting fact, however, that its exact mechanism is still one of the really obscure problems of biochemistry, and has been a controversial subject for many years. The earliest attempt to explain this coagulation, which occurs when rennin acts on milk and solutions of casein, was made in 1839 by the French investigator, Fremy (1). He believed the power to coagulate milk, possessed by an extract of the mucous lining of a calf's stomach, to be due to the presence of an enzyme which converted some of the lactose of the milk into lactic acid, the acid thus formed precipitating the casein.

This view was accepted until 1877 when the noted Swedish investigator, Hammarsten (2), showed that the coagulation of milk was due to the presence of a soluble ferment which acted directly upon the casein, producing, as he believed, two substances, the insoluble curd or cheese (also called paracasein), and a soluble product which he called the whey-protein. He also showed that the change of casein to paracasein was independent of coagulation, the coagulation being due to the presence of soluble calcium salts.

The chief controversial point concerned the question of whether the enzyme rennin, which initiates the process of coagulation, was an independent ferment, or whether it was part of the gastric ferment, pepsin. The Russian physiologist, Pavlov (3), held the latter view and offered evidence in defense of it. The view of Hammarsten (4), however, has prevailed and is the one generally accepted today—that the chymase or rennin of the calf's stomach, and that of practically all other newly-born animals, is an individual ferment, entirely independent of pepsin. It is a ferment which is active only in a weakly acid medium; it is a protease which attacks and partly digests only a few proteins.

One premise, however, is definitely accepted: that the coagulation phenomenon has no direct connection with the ferment action, but is a secondary phenomenon, and develops as a result of the action of the ferment upon the caseinogen of the milk. Under suitable conditions, this brings about the change to casein, which precipitates out or coagulates in the form of a complex calcium product. The ferment action

[1] From the Department of Pediatrics, University of Chicago. Received for publication March 29, 1933.

itself does not cause coagulation but brings about the chemical change. It seems to be the function of the calcium salts to precipitate the newly formed casein. The exact rôle of the calcium salts and the mode of their action in the process of milk coagulation are as yet little understood and form one of the more obscure and unsolved problems of this interesting, albeit simple and homely phenomenon.

Rennin is widely used today in the cheese industry and in the preparation of coagulated milk products known generally under the name of "Junket." Fifty years ago this preparation was unknown, but the women of that day knew how to prepare old-fashioned "curds and whey," or "slip," using new milk and a piece of calf's stomach, carefully kept for that purpose. The "junket" of Devonshire has long been justly famous. The preparation of coagulated milk that we know today resembles it in many respects, but outrivals it in attractiveness of preparation, and wide use as a tasty dessert.

Formerly the preparation of rennin was a crude and haphazard affair. No standardized method existed until Christian Hansen (5) of Copenhagen, some fifty years ago, invented processes by which he produced liquid extracts of the ferment, of standard strength and certain purity. The foods called "junket" are made by combining rennin, or commercial junket in liquid or powdered form, with milk. To increase the attractiveness, sugar, flavoring and coloring are usually added. When rennin is added to the milk, it changes the soluble casein to the insoluble form, calcium paracasein, which remains distributed and then forms a gel.

The investigations of Hammarsten (6) and others have shown that the protease, rennin, initiates some preliminary stages of digestion. The question whether such action is of a hydrolytic nature and represents a break-down of the casein complex is still somewhat controversial. Hammarsten (7) believes that it is, whereas the work of Van Slyke and Harden (8) would indicate that this is not the case. One thing is certain, that the action of chymase or rennin breaks up the colloidal aggregates and loosens certain structural combinations, giving the casein conglomerate smaller molar size than its precursor, caseinogen. Strangely enough, according to Van Slyke and Bosworth (9), this smaller molar conglomerate of casein is capable of binding almost double as much basic element, largely in the form of calcium phosphate, than is the much larger molar conglomerate of caseinogen.

Some physiological studies (10), carried out in this laboratory, demonstrated that milk, to which the ferment had been added, showed an accelerated rate of digestion. In the case of pasteurized cow's milk

dilutions and whole milk, there was also an increased motility somewhat comparable to that observed with the various acid milks. This effect was not so noticeable when junket or rennin was added to processed milks.

There are many uses in the dietary for milk products prepared with rennin. For the young infant, it is widely used in the preparation of whey, or in the formation of the curd needed in the preparation of protein milk. In the older child's dietary it finds many uses and may be quickly, easily and attractively prepared. The product has been recommended by pediatrists and internists (11) for cases of chronic anorexia, so troublesome in chronic infections or prolonged convalescence from disease, and in those cases of functional anorexia where psychic factors play such an important rôle and make adequate food intake and the whole feeding régime a difficult problem. It is also useful in acute gastro-intestinal diseases, particularly if complicated by much vomiting (12). Junket desserts may also be prepared with fat-free milk, thus combining both attractiveness and tastiness with improved digestibility.

This milk preparation also finds many uses in the adult diet, where it is especially useful in chronic disease conditions, characterized by troublesome anorexia during prolonged convalescence. It is of value in tuberculosis, chronic gastro-intestinal conditions, such as gastric ulcer and hyperacidity, diabetes, all the chronic forms of nephritis, and in post-operative diets, particularly following throat operations or those on the gastro-intestinal tract. Coagulated milk preparations are useful in the chronic cardiac cases in which both anorexia and meteorism are such troublesome symptoms. The same can be said for typhoid cases, the cases of acute or chronic arthritis, acute or chronic pneumonia, and many other acute or chronic illnesses in which adequate food intake always looms as a problem.

From some practical experience in the field, I have the impression that not enough use is made in the present day dietary, for both the sick and the well, of these really excellent and useful milk preparations.

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EDITORIAL

William Beaumont—Pioneer Physiologist

The anniversary of the publication of one of the most cherished bits of American medical incunabula was celebrated in October, 1933, at the New York Academy of Medicine and recorded in their *Bulletin*.[1] William Beaumont, its author, was born in the simplest sort of home in Lebanon, Connecticut, in 1785. When twenty-two years old, he left home to seek his fortune, equipped with a horse and cutter, a barrel of cider and one hundred dollars in money. He conducted a village school and in his leisure time studied medical books in the village doctor's library. Later he commenced a regular course of medical reading, and having fulfilled his required apprenticeship was licensed in 1812 to practice medicine in the state of Vermont. During the War of 1812 he received an appointment in the United States Army as an assistant surgeon, and it was after the war, in 1820, that he was ordered to Fort Mackinac as post surgeon, and met his great opportunity for applied scientific study in the person of the French-Canadian, Alexis St. Martin.

In the midst of a "rough, brawling, drunken community of about 5000 Indians, French-Canadians and half-breeds" (*Time*, October 9, 1933) the man whom Osler called the "pioneer physiologist of this country" carried out epoch-making experiments and recorded them as the "straight-forward report of a scrupulously honest man who used his senses cautiously in a significant scientific enquiry, who recorded exactly how he used them and what they revealed, and who drew limited inferences from the observed facts."[2]

The name of Alexis St. Martin needs no introduction to the readers of this Journal. Many, however, may not be aware that he was not the first person with a gastric fistula to be recorded in the literature. Myer, in his biography of Beaumont, refers to many cases which had been noted in the literature before 1830, yet in none of these instances was there evidenced the interest and persistence shown by William Beaumont. With no opportunity for conference and sympathetic discussion with interested fellow workers, no library or journals, or possibility of consulting experts, and with meagre laboratory equipment, he carried on, according to Cannon, "a series of observations on the gastric juice and the gastric digestive process which during the hundred years that

[1] *Bull. New York Acad. Med.*, October, 1933.

[2] Cannon, W. B.: The Book of William Beaumont after One Hundred Years, Bull. New York Acad. Med. 9: 568–584, Oct., 1933.

have elapsed since then have not failed to call forth the admiration of all." It was in the summer of 1833 that one thousand copies of his book, *Experiments and Observations on the Gastric Juices and Physiology of Digestion*, were published at his own expense. At the end of this book he listed fifty-one "inferences" from his tests and experiments. Only a few of these inferences "have been superseded because they were not in accord with results obtained later under more favorable conditions; some of the inferences anticipated in a remarkable manner facts proved by quite modern investigations; and many of them have been confirmed and incorporated in the general body of physiological and clinical knowledge."[2]

Among the more dramatic of Beaumont's conclusions were: the rejection of Magendie's hypothesis on thirst, a rejection which, according to Cannon, is even now on sounder ground than that of either Magendie or Magendie's successor, Claude Bernard; the reasoning that the sensation of hunger must have its source in the stomach itself— a view supported by modern evidence; the classic description of the gastric juice, and his prudent conclusion that "probably the gastric juice contains some principles inappreciable to the senses or to chemical tests", further indicated in late studies of pernicious anemia; observations on the stimulation of the flow of the stomach juices in "proportion to the quantity of aliment", in accord with the much later studies of Pavlov; studies on the effects of temperature on digestion, for gastric juice, "like other chemical solvents" would have the rapidity of its action "increased in proportion to the elevation of temperature"; observations on the time required for the chymification of various foods; and the shrewd reasoning on the effect of different foodstuffs and their digestion in the stomach.

In an amazing fashion Beaumont was able to give a quite accurate account of the type of peristalsis seen in the human stomach, inferred from the behavior of the projecting end of a glass rod. Cannon also notes Beaumont's observation on the retarding effects of severe and fatiguing exercise on digestion, and the abnormal appearance of the gastric mucosa in general bodily disorder, noted conclusively by Alvarez today. Beaumont also had an excellent opportunity to observe the effect of emotional disturbance on the secretion of gastric juice and on digestion in the temperamental subject, St. Martin. The phenomenal work of this crude backwoodsman influenced notably the later work of Claude Bernard, and that of Pavlov, who received the Nobel Prize for his well-known treatise on *The Work of the Digestive Glands*.

The difficulties confronting William Beaumont in his explorations of

St. Martin's stomach were many. During the years of his investigations there was a time when Alexis grew impatient, ran away to his Canadian home, married, and fathered two children (*Time*). We have the word of Surgeon General Robert U. Patterson[3] that, on St. Martin's death at 83, the number of children had been increased to 20. When William Osler planned to secure the famous St. Martin stomach for the Army Medical Museum he received a telegram, "Don't come for autopsy; will be killed", and the grave was guarded at night by the neighbors. *Time* says that the family buried him eight feet deep to make difficult attempts at exhumation.

As Cannon notes, in commending the work of Walter Reed and other famous members of the Army Medical Corps, "Although the circumstances may never have been so unfavorable as they were at Old Fort Crawford, rarely have they included handy and well-equipped laboratories, libraries and stimulating atmosphere." He sagely adds that perhaps the essential conditions for Beaumont's and other army medical men's successes were provided through leisure and freedom from social and professional demands, boards and councils, commissions and committee meetings, and "other distracting obligations". That leisure was essential is indicated in the following letter written by Beaumont after six weeks in New York City:

> I have been unable to do much at accurate experiments and observations since I came here, so numerous and increasing are the calls of the curious, the social, the scientific and the professional . . . I am determined to do it [i.e., complete a series of studies] soon, however, if I even have to shut myself up with Alexis in a convent, or retire to some seclusion in the country. My official duties are very light, and would not interfere at all with my experiments, could I avoid the vexatious social intercourse to which I am perpetually exposed in this City. It is an unfavorable place for the pursuit of physiological inquiries and experiments.

Mental Hygiene and Food[4]

It probably will not be known for many years what the relief programs of today will mean to the child, so far as emotional scarring is concerned. He is the sufferer and storm center of the conflicts of this adult world, in the midst of economic chaos and social standards which are shifting

[3] Patterson, Robert U.: William Beaumont as an Army Officer, Bull. New York Acad. Med. 9: 555–64, Oct., 1933.

[4] Abstract of an address presented by Dr. Maude Watson, Director of Child Guidance, Children's Fund of Michigan, to the American Dietetic Association, October 12, 1933.

rapidly day by day. At home he may be facing parents who have never before known actual fear of want, whose lives are frustrated and at times seemingly futile. At school he may face teachers, unpaid, disillusioned in their own profession, troubled, working out their own dissatisfactions by nagging and complaining. To it all the child responds with behavior which is so often indicative of his own emotional conflicts—failure in school, night terrors, nausea without a physical basis in one type of child, and truancy, perhaps belligerency and temper displays in another.

Many of the conflicts within the sensitive child may be grouped about the subject of food. He may think of his family as being "self respecting" in the past, but now on the "welfare". This sensitiveness may show itself in his unwillingness to eat with others in a welfare center, complaints of nausea and inability to eat. It is the privilege of child guidance workers to help such children in solving their problems, as best they can be solved under the present circumstances.

The application of sound mental hygiene to food habits begins with the nursing period. The mother's emotional unreadiness to accept pregnancy, or her own feeling of frustration, reflect themselves in her attitude toward the nursing child. Creating an over-dependence upon the mother may influence the rest of the child's life. If intelligently handled, he should make one step after another in the weaning process with ease and pleasure. Children soon learn that much importance is attached to their eating habits; parents become uneasy when they do not eat, and one often sees meals as stormy sessions, with parents coaxing and threatening and children using the one successful weapon against them, rejection of food. With some, vomiting after the meal serves to attract attention and gain the ends they desire. Only when they learn that no one is really concerned with such a procedure does it stop. Fussiness over food carries into adult life with many people who try to get the attention, by that method, which they secured as children.

Parents of the present day have a growing awareness of the fact that their own methods have much to do with the child's attitude toward food. Meal time must not be considered the time to criticize the child and retail all his misdoings of the day, neither should food likes and dislikes be discussed. He should not be told with too much emphasis, "Eat this, it is good for you", because of the resistance it may later develop toward that food. Intelligent parents, too, are discovering that table manners can be suggested at more auspicious times than at the table when every mouthful is watched and every movement with knives, forks and spoons is criticized.

Resistances can be created in a child with too much emphasis on the value of the prescribed habit or food. He may be worn out by arguments over a food, and develop a lifelong resistance against spinach, for example. Prizes and rewards approach the question from the wrong direction. Pressure must come from within the child and not from without. In order to plan the child's food program, it is necessary to understand him, and to determine how much responsibility he can bear for his own diet. Initial food training today should be so effective that many of the undesirable things now evident in adult patterns of everyday life may not be repeated in the next generation.

Looking Back One Hundred Years

Arnold Shircliffe, whose extensive collection of dietetic Americana is well known to many dietitians, recently lent copies of the accounts of the Pennsylvania Hospital of over 125 years ago to this Journal. The delightful simplicity of a bygone day is evidenced in certain items enumerated. In the year 1804 milk, butter, pork, soap and hay were produced on this hospital's grounds and consumed therein. The matron, among her accomplishments, made rose water for which the sum of $53 was received. Numerous cows, calves and pigs were sold. Patients paid the hospital for their funeral charges. "Lunatics" paid well for furniture and bedding destroyed. The credit column lists "From 4 students of medicine their proportion (except one dollar due from them of damages sustained, by their scrawling improperly on the glass sky lights of the Hospital dome, which by order of the Managers were all taken out, to be replaced by others at their expense). The delinquent young gentlemen are expected to call and pay the balance of this debt of honour $19.00." On the debit side we find the sum of $350 paid for nine months' salary to Francis and Hannah Higgins as steward and matron. It required 1,280 pounds of candles at a cost of $182 to furnish light, and $40 rent was paid to pasture the cows. A year's tobacco cost $2.89. For a hospital population of 419 hospital cases for the year, 838 gallons of molasses, 254 gallons of brandy and spirits, 269 gallons of wine, and 24½ barrels of beer were consumed, among items listed under liquors. Of these 419 patients, 231 were "cured", 50 of whom were listed as "cured lunatics". Of 315 out-patients during the year, the encouraging number of 266 were reported "cured" and 8 "delivered safe." One patient admitted for "wounds and bruises", "eloped".

Adverse Comment on the Tugwell Bill

Practically all journals, magazines and newspapers, "rightly or wrongly," have been made possible through nation-wide advertising. Vast industries have developed and millions of people have thus been employed. Forty per cent of all this advertising covers foods, drugs and cosmetics, and it is the disposition of these three classes of product that the Tugwell Bill is designed to regulate. Legislation which could apply *only* to those products known to be harmful calls for no animadversion, but when broad classification takes in the good with the bad, and reputable businesses are threatened with restrictions that may sweep them out of existence, it behooves all concerned, whether directly or not, to study the pros and cons of the situation.

There is a noble intent in the proposed legislation which obviously appears to be solely in the public interest, but bitter experience with other noble experiments, enthusiastically accepted at face value, calls for sober reflection. If one is to accept the expressed opinion of the sponsor of this bill, that 90 per cent of all advertising is an economic waste, one must also conceive the idea of a Utopian existence that would rather completely revolutionize past economic standards. One way, of course, to exterminate the "rats in the attic" of the advertising industry, is to burn down the whole house. In our present economic crisis there should be no hasty acceptance of further disrupting action. It should be possible to exterminate by less radical means. The need for some adequate control or censorship, particularly so far as dangerous drugs are concerned, calls for no further emphasis—it shrieks for attention, yet the more obvious possibilities for unfair interpretations of the letter of the law, when entrusted to department subordinates for decisions and rulings, demand serious and cautious consideration of this bill.

One of its provisions requires the publication of formulas on the labels of food products, a procedure to be commended from one point of view. But to the manufacturer it means that secret formulas, in which millions of dollars are invested, are practically confiscated by the government. Lea and Perrins, A-1, and many other sauces, Colman's Mustard, Underwood's Deviled Ham, Heinz's products and hundreds of others would be seriously affected. It is said that one and one-half typewritten pages of text would be required to describe the ingredients of a pound box of mixed chocolates.

The bill is designed to protect the public against misleading statements in the advertising of food and drugs. Who is to determine what

is "misleading"? The favorable side of the bill, as outlined in the paper appearing currently in this JOURNAL, should be considered along with the potentialities for devastating results of the enaction of a possibly ambiguous or illogical law involving additional government censorship, and calculated further to embarrass our economic structure.

A NEW SECTION FOR THIS JOURNAL

It is believed that the membership as a whole should be better informed with regard to the aims of each current administration, the plans and progress of the sections, and related activities as carried on by affiliated local and state groups. With a view toward strengthening the solidarity of affiliated groups with the national, it was decided to launch a new section entitled "Association Progress", beginning with this issue of the JOURNAL. The plans, activities and progress of national, and local and affiliated groups, will be commented upon in this new department. Routine news items will appear as heretofore in the news section, but sufficiently important projects and advancements of affiliated groups, and discussions and opinions of individual members, will logically appear under Association Progress.

CURRENT COMMENT

THE VITAMIN B-COMPLEX CONTENT OF YEAST CANDIES[1]

During the last few years a number of food products to which vitamins have been added have appeared on the market. One of the most recent of these is a chocolate confection into which yeast has been incorporated. Since a number of these candies have been advertised to be very rich in the vitamin B-complex in consequence of the added yeast, a biochemical test was made on ten of these products.

White rats were depleted of their body store of the vitamin B-complex, and were then fed different amounts of candy. The maximum amount fed was one bar per week for each test animal. Positive controls were fed varying amounts of fresh yeast.

Several additional positive controls were fed the same amounts of candy which were fed to the animals on the deficient diet. These control experiments were performed to make sure that there was nothing

[1] Abstract of a more complete presentation of this subject, by Charles F. Poe and Hazel V. Goure, which will appear in the University of Colorado Studies. From the State Food and Drugs Laboratory, and Chemistry and Home Economics Depts., University of Colorado, Boulder.

in the candy which would affect the growth of the test animals. All of the animals on the positive diet receiving the candy showed equally as good growth as the other controls. These experiments indicated that the sugar, chocolate, or other ingredients in the candy had no deleterious effect on growth.

The Sherman units were calculated for each sample of candy. From a comparison between these values and the units obtained for the fresh yeast, the amount of yeast present in each bar of candy was calculated. These results, together with the claims of the manufacturers, are given in the following table.

The claimed and analyzed yeast content of candies

NUMBER OF SAMPLE	CLAIM OF MANUFACTURER	SHERMAN UNITS PER BAR	YEAST CONTENT IN CAKES
1	Rich supply of yeast	9.91	0.43
2	Rich supply of yeast	15.05	0.65
3	1 gram conc. yeast	5.25	0.23
4	1 cake yeast	None	None
5	3 cakes yeast	5.46	0.23
6	1 cake yeast	None	None
7	1 cake yeast	28.00	1.20
8	More than 1 cake of yeast	17.54	0.75
9	Liberal supply of yeast	None	None
10	No claim for yeast	None	None

There was no consistently large amount of yeast in the candies examined. Samples 4, 6, 9, and 10 were nearly devoid of growth-promoting substances. Sample 10, however, made no claim of yeast content, being advertised for its antirachitic potency. Numbers 3 and 5 apparently contained very little active yeast. Samples 1, 2, 7, and 8 seemed to contain a considerable amount of the vitamin B-complex. Sample 7 exceeded the claims set by the manufacturer, but this may have been due to the presence of peanuts and peanut butter, both of which have been found to contain vitamin B.

Probably yeast was added to the candies at the time they were manufactured, but because of the rather high temperatures used in cooking, or because of other reasons, the vitamins were rendered inactive.

Further Light on the Cleanliness Question

The crying need for renewed emphasis on thorough examination of food handlers, as pointed out in the November Journal, has been further emphasized by the far-reaching epidemic of amebic dysentery

which originated in Chicago in August, 1933. The tremendous demands on the hospitality of the city, because of the Fair, doubtless broke down the customary precautions in the selection of help, and resulted in the employment of many itinerant workers. The responsibility vested in the hands of persons engaged in feeding the public is great. Since there are obviously so many weak spots in our present system of physical examination of food handlers, the matter should be continually emphasized so that this dread disease, amebic dysentery, may be largely averted in the future. This condition was formerly considered a tropical disease, yet, according to the *Journal of the American Medical Association* for November 18, cases appear today in every state of the Union. The recent epidemic in Chicago has resulted in the distribution of potential carriers all over the United States. The cases noted in Chicago were traced to one hotel, where it was found that more than twenty-five per cent of the food handlers were infested with Endamoeba histolytica. Because of the unusual character of the disease, many cases were diagnosed as ulcerative colitis, appendicitis, or peritonitis. It was found that two of the food handlers had been implicated in a small epidemic that occurred in a Chicago hotel in 1927. Seven or eight cases developed at the time, the original one being that of a cook who was treated and later pronounced cured. This cook and another food handler, also infected in 1927, were among the employees of the hotel concerned in the present epidemic. As the *Journal* says, "The only protection for the public is the detection of every infected food handler and the elimination of such persons from this occupation." Such measures are being put into effect in the Chicago hotels. The ambulatory patients who become itinerant food handlers are those from whom the chief hazards originate. Safety demands that every new person be examined when applying for work in kitchens and dining rooms. The economic necessity of employing cheap labor has resulted many times in the employment of persons careless about their work. Individuals who do not show a proper sense of personal cleanliness should not be premitted to work with food. Executives of food departments should see that there are ample facilities for thorough scrubbing of hands in toilets used by employees. There should be signs displayed and monitors occasionally posted to see that these rules are enforced, and ample facilities for hand washing should be provided throughout the kitchen quarters. In general, the psychology of cleanliness should be impressed upon all persons connected with the handling of food.

Principles of Ventilation[1]

A discussion relative to atmospheric conditions must be based upon the factors of comfort, and physical and psychological reactions. In any group there is apt to be a difference of individual opinion as to the reaction attained in any room or space; comfort is usually the factor upon which the individual bases his judgment of the ventilation.

In areas where odors prevail, such as kitchens, good practice demands that these odors be prevented from floating around the room. Positive ventilation must be induced by a fan, or fans, drawing air through a metal duct from a hood located over the range or cooking unit. Several cooking units may be located under one hood for reasons of economy. Since it is desirable to exhaust odors and heat directly into the hood without their dispersion into adjoining areas, a velocity of air must be created at the periphery of the hood sufficient to prevent dispersion through the hood. By experience it has been determined that a minimum of 75 cubic feet of air per minute, per linear foot of hood periphery, must be exhausted. A suitable hood is constructed usually of galvanized sheet iron and made double, that is, with an air space of approximately 18 inches. There should be a 2 inch slot around the periphery of the hood through which air is drawn into the air space and thence through a duct to the fan. The hood should project approximately 12 inches beyond the edges of the cooking unit and the edge of the hood should be at a standard height of 6 feet 2 inches above the floor. Hoods over odor-producing units in laboratories may need to be as close to the unit as convenience will allow, in order to remove fumes or odors with the least possible delay.

In small kitchens, an open type hood (not double) without a fan is sometimes used with fair results if the duct connecting the hood to the outside atmosphere is short. The heat rising from the range creates a natural draft, and with a free outlet good ventilation is produced. If the cost of installing a hood and blower fan seems to be prohibitive, a propeller type fan may be installed in the outside wall. This will not be so efficient, but it will tend to prevent dispersion of odors through adjoining rooms. Such a fan should have a minimum capacity sufficient to change the air every 3 minutes.

When an area is ventilated by the exhaust method, adequate means of admitting air must be provided. Air cannot be exhausted or withdrawn from a space unless air is replaced. This may be done by the

[1] Abstract of paper read by Frank Goodspeed, assistant to the Chief Engineer, Works Department, Century of Progress, before the American Dietetic Association, October, 1933.

drawing of air from other parts of the building, provided, of course, that it is free from objectionable odors or dust. The percentage of this re-circulated air may be varied within reason so as to conserve heat, but at no time should the re-circulated air exceed 75 per cent of the total.

Conservation of heat is often effected to the detriment of physical well-being. In residences, double windows are installed and weather stripping is used wherever possible with the idea of making everything tight against the cold outside atmosphere. The result is a dry, vitiated atmospheric condition which is quite undesirable. Generally speaking, two changes of air per hour are obtained by leakage around windows and doors when double windows and much weather stripping are not used. In the cold months all fresh air admitted for ventilation purposes should be tempered or warmed to prevent undue condensation of moisture in the warm humid air of the room. Ventilation of any room or space requires a definite movement of air, but generally speaking, this movement should not be at a perceptible velocity.

It is of interest that in a crowded hall or any place of assemblage, the total heat given off by the occupants, and the lighting and power equipment, is often more than the normal heat loss through the building structure to the outside air, even in winter. A typical case might show approximately 300 B.T.U. of body heat, plus 100 B.T.U. per person from light, etc., being given up to the building, with about 200 B.T.U. heat loss from the building per person per hour; thus 200 B.T.U. per person must be carried away by the air, and the problem is often one of cooling and ventilating, rather than heating and ventilating.

Air washing and humidifying apparatus is quite desirable in connection with heating and ventilating systems, and when properly applied, adds much to the comfort of the occupants of spaces so served. Relative humidity is the ratio of the actual weight of moisture present in one cubic foot of the mixture (air and water), to the amount which one cubic foot of the mixture would hold at the same temperature if saturated. It is generally accepted that for comfort the relative humidity should be between 30 and 60 per cent. If the surrounding air is approaching saturation, the evaporation of perspiration from the human body will be very slow, and there will be a distinct feeling of discomfort. For moderately high temperatures, greater cooling effect is produced by air motion at high than at low humidities, the reason being that air motion hastens evaporation; but at low humidities, evaporation takes place so fast that the cooling effect is lost and we have instead a parched or baked feeling.

Air conditioning and cooling will doubtless become quite universal in the near future. There are four fundamental ways of producing effective cooling: the dry bulb temperature may be lowered by direct cooling; moisture content of the air may be reduced; evaporation of water without addition or subtraction of heat is accompanied by an increase in moisture content, resulting in effective cooling; and, except for extreme conditions, effective cooling may be produced by air motion. The last requires, necessarily, the movement of a larger quantity of air than would be required for ventilation purposes. From the standpoint of comfort, the inside temperatures maintained must depend largely on the variation in outside temperatures. It would be undesirable to maintain a temperature of 70° inside when it is 90° or 95° outside; nor would it be wise to have an inside temperature as much as fifteen degrees below the outside temperature; the shock caused by passing from a hot to a cool atmosphere or the reverse would be too great. A satisfactory rule is to add to 72°, for example, one-third of the difference between the outside temperature and 70°. This will give a comfortable difference and eliminate shock. Usually the relative humidity must be lowered to give a sense of comfort, and in addition the relative humidity must produce a rate of evaporation which will keep the skin and clothing dry.

Good design does not necessarily produce a satisfactory ventilating system, since faulty or careless installation may undo much of the work and effort previously spent; therefore the designing engineer should supervise installation.

Electricity in the Kitchen[1]

The trend of modern methods has been toward standardization, which "may be defined as the replacing of individual judgment, which may be tempered by opinions or prejudices not based on fact, by standards which are the result of experience and research." These standards of practice are well illustrated in the specifications used in the purchasing of foods, since practically every food item purchased by a modern institution must conform to a definite standard.

With regard to equipment, manufacturers have long had this same problem of human fallibility. They have secured a uniform product in keeping with their standards of excellence, by the use of machines designed especially to make each part of a given piece of equipment so

[1] Abstract of paper presented before the New York State Dietetic Association, by Mr. J. M. Welch.

that it is made better and more uniformly than by the hand work method; and they have made those machines as nearly automatic as possible, not primarily to reduce the labor required, but to remove human fallibility.

If we apply this lesson to institutional cooking, we find that in the truly modern kitchen roasting and baking are done in special, highly efficient, thoroughly insulated ovens with automatic temperature controls, readily adjustable to different products and decreasing shrinkage loss.

Frying and boiling are done in automatic, temperature controlled, insulated kettles. Deep fat frying temperatures may be so controlled that fat absorption is reduced to the minimum. Savings in fat alone, compared with older methods, may go far towards paying for such new kettles. Well-insulated stock kettles with easily adjusted heat input enable operators easily to maintain the simmering temperatures which extract the maximum flavors and juices from stock ingredients.

The new type of electric vertical broiler seals in the flavors and juices of the meat and reduces broiling time by applying heat from both sides at once. The advantages of automatically controlled electric heat for minor cooking operations such as waffle baking, toasting, griddle frying, and egg boiling are well recognized. One may find as well that the same characteristics of electric heat—ease of control, uniformity, and cleanliness—apply with equal or greater force in the major cooking operations.

A further advantage of electricity as an institutional kitchen fuel lies in its adaptability and the efficiency with which it may be applied in small, individually controlled, highly specialized units. For example, with electricity a whole oven does not have to be heated to bake a single cake, nor a whole range top heated to cook an egg.

Automatic temperature control, besides the obvious advantage of removing the human element in production, with the consequent improvement in uniformity of product, also acts as an automatic check on fuel costs, since it automatically proportions the amount of current used to the work done. The cook may forget to bank a fire or turn off a gas cock or switch, but the automatic control, not being subject to human fallibility and forgetfulness, does not err. Modern equipment in the line of "Thermotainers" and refrigerators is available both for main kitchen use in service and in food carts for transportation from kitchen to consumer.

To be guided wisely in the choice of equipment, one should under-

stand something of the methods through which heat is applied in cooking, The combustion of flame type fuels requires a high kindling heat. Ordinary gas flames have a temperature of from 2800° to 3000°F. Regardless of whether the flame is high or low, its temperature remains the same. Hence, the only method of reducing this temperature to the relatively low one needed for cooking, seldom over 500°F., is by dissipation. This is accomplished in several ways, either by a series of baffles or by interposing a layer of air of varying thicknesses between the flame and the cooking utensil. Either method requires circulation of the hot products of combustion which cause non-uniform heating. Other factors such as draft, air supply, burner adjustment, gas pressure, size of orifice in burners which varies with the age of burners, and quality of the fuel itself are constantly changing variables which prevent really accurate temperature control and uniformity of heat application.

The energy output of electricity is automatically regulated to provide only enough heat to maintain a pre-determined temperature. The flow of electricity is constant, and its transformation into heat energy is dependent upon another constant, the resistance of the unit.

Where specialized devices are used for a single operation, temperatures of electric devices may be set at the optimum with one motion, as in the case of the automatic electric waffle baker. Where several varieties of products requiring different temperatures are prepared with the same appliance, the temperature best suited for each product may be accurately set on a plainly visible and accurate scale with less trouble than setting a watch. Because there are no variables in the action of electric heat generation, the temperature set will be constantly and accurately maintained without further attention on the part of the operator. Examples of this accurately adjustable automatic temperature control are the electric ovens and fry kettles.

Additional flexibility is given to ovens by separate three-heat switches controlling the top and bottom units of each deck. The manipulation of these switches gives any desired ratio of top and bottom heat, a factor of supreme importance in fine baking, and a feature which cannot be duplicated in flame type ovens. Individual control of heat on each hotplate of the institutional range makes it, in effect, the equivalent of a number of French top, flame-fired ranges equal to the number of hotplates in flexibility, and the fact that every square inch of each hotplate is at the same temperature makes it the equivalent in capacity of several flame fired ranges. For example, a 48-inch electric range is equivalent

to from two to three 30-inch flame type ranges in capacity, depending, of course, on the type of service used.

The dietitian has a great responsibility in maintaining the health and efficiency of her help, her students and herself. Excessively hot, poorly ventilated kitchens cause ill health and inefficiency. Electric kitchens have a profound effect on both kitchen temperature and ventilation. Electric heat is applied where needed and in the quantities needed and is not dissipated into the kitchen air, nor is it reflected down from hot ranges upon the shins and feet of the cooks. Flame type fuels, in a kitchen preparing 1000 meals a day, consume by combustion as much oxygen from the air as 500 persons would breathe in eight hours. And if burners are not adjusted with utmost precision, they exhaust carbon monoxide into the kitchen. It should also be kept in mind that when fats and greases are exposed to open flame, there is an ever present fire hazard.

BOOK REVIEWS

Clio Medica. A Series of Primers on the History of Medicine. X. Nutrition. By Graham Lusk. New York: Paul B. Hoeber, 1933, pp. 142. Price $1.50.

Every student of nutrition will treasure this last work of Graham Lusk, a manuscript completed just a few weeks before his brief illness and untimely death in 1932. This scholarly little volume was prepared at the end of forty-two years of teaching and monumental research. As Dr. DuBois states in the preface, "No man in the field of metabolism possessed a greater knowledge of the literature, no man had a better appreciation of the old masters."

The history of nutrition may properly be said to have begun in the ancient world, when the Ebers papyrus of 1552 B.C., prescribed certain cakes, wheat, corn, and grits "to drive away the too much emptying of urine." This is believed, as Lusk says, to have referred to diabetes, and was written a thousand years before Hippocrates. The word "chemistry" is derived from *Khemi*, the native name of Egypt, meaning literally "black earth" because of the alluvial deposits from the Nile. From its original connotation, chemistry came to be known as the "black art." Hippocrates' forecast of modern calorimetry is quoted in one of his aphorisms. Another, referring to those unfortunately fat, sounds like a modern life insurance circular. Erasistratus (310–250 B.C.) was perhaps the first experimental physiologist, antedating Sanctorius by nearly 2000 years. Celsus, Galen, and Aretaeus (who gave diabetes its name) are engagingly quoted and discussed in this first chapter.

Carl Voit's protrayal of events of the dark ages following the death of Galen is quoted in Chapter II. Here we find an account of the beginning of the Italian school, and of Leonardo da Vinci—artist, biologist, engineer and humanist—who in 1503 diverted the waters of the river Arno, and in 1505 painted the "Mona Lisa." The contributions of the Medicis and Paracelsus, the first "biological chemist," who followed da Vinci, complete this chapter.

The march of the seventeenth century and the advent of Sanctorius, and his determinations on "insensible perspiration;" the founding of many learned societies; and the work of Harvey, Willis, Hooke, Mayow and others are graphically outlined. The eighteenth century witnessed the chemical revolution when the groundwork of our modern knowledge of nutrition was laid between 1728 and 1743. Here we meet Black, Spallanzani, Cavendish, Priestley, Scheele and Lavoisier. It was the last who was "to weld these miscellaneous achievements into a harmonious entity." Attention is called to Lavoisier's execution by the French Revolutionists, which Charles Richet termed the most criminal act of the Revolution.

Chapter V pauses to consider "dietetics," in which the works of McCollum, Mendel and Sherman are referred to.

The nineteenth century introduces Gay-Lussac, a pupil of Berthollet, who was an associate of Lavoisier. Gay-Lussac, the greatest living chemist of his day, received into his laboratory "a youth who in his turn became the greatest living chemist"—Liebig. Here Dr. Lusk calls attention to the "directly transmitted intellectual inheritance" from Lavoisier through Berthollet and Gay-Lussac to Liebig, and thence to Carl Voit and "to many who are still alive." These poignant last words were written when the one most worthy successor was alive—Graham Lusk.

Our interest in Claude Bernard, the discoverer of glycogen, who believed that there is "but one chemistry for health and for disease" is re-awakened when one reads that he did his work in a cellar under the street, and that his wife left him—"one of the greatest men in France"—because he could not provide her with a horse and carriage!

After looking upon the two eras of English discovery, and the rise of French science, Lusk directs attention to the German era of the nineteenth century, the days of Goethe and the godlike Beethoven, when Liebig, Wöhler and Johannes Müller were

young professors. It was the spirit of these inspired days that must have passed on to Graham Lusk. It was the day when the teacher was "a father caring for his children" and students were limited in number. "One can make screws by the million in a factory, but men cannot be created like screws." We come next to Carl Voit (1831–1908) who came to Munich when Liebig "shared with Wagner the idolatry of the town" and under whom Lusk studied.

The closing chapter enters the modern phase inaugurated by Lusk and Rubner (1854–1932) in which we read of the decision of Lusk and DuBois, in 1912, to translate the word *Grundumsatz* as "basal metabolism."

The final paragraph of the little book follows: "The aggregate money cost of this food reaches colossal proportions. In the United States it must be $15,000,000,000 per annum, and this food is usually taken in sublime ignorance of what it all means. Even in medical schools little thought is given to the subject. The schools of home economics, however, form a group of people who really understand the subject."

M. P. H.

Hows and Whys of Cooking. 2nd Ed. By Evelyn G. Halliday and Isabel T. Noble. Chicago: University of Chicago Press, 1933, pp. 252. Price $3.00.

This volume has been aptly termed the "guide to all cookbooks," and while written perhaps primarily for use in cookery and chemistry of foods laboratories, it has found its way into the kitchens of progressive housewives who choose to cook "intelligently." The first edition was reviewed in the JOURNAL in March, 1929. The new edition carries a full chapter covering every phase of the buying and cooking of beef, and a chapter on meal planning. The chapter on beef is made complete with a number of clear-cut photographs and diagrams illustrating all cuts. The chapter on meal preparation is for the beginner, and emphasizes the fact that efficiency requires practice, but shows that the practice period may be reduced to a minimum by suitable selection of foods and by well thought out plans.

This book should give the thoughtful reader and considerate cook the real "cooking sense" of our grandmothers. It offers a short cut to experience and is an invaluable aid as a text or reference work in courses in foods and cookery.

Food, Nutrition and Health. 3rd Ed. By E. V. McCollum and J. Ernestine Becker. East End P. O., Baltimore: Published by the authors 1933, pp. 146. Price $1.50.

Coming from the originator of that classic slogan, "Eat what you want after you have eaten what you should," one expects and is not disappointed to find 143 pages of sound nutritional information clearly and tersely given. An earlier edition of this book written in collaboration with Dr. Nina Simmonds was reviewed in the JOURNAL in March, 1929. The present edition is particularly welcome, since the depression seems to have given many promotors, food faddists and medical quacks the urge to write and disseminate considerable pseudo-science and various sensational diets designed to appeal to food thrill addicts. The nature of an adequate diet is here portrayed in simple language as the biochemist visualizes it. The effects of deprivation of individual nutrients are made clear as far as they are known; the dietary properties of our more important foodstuffs are outlined, as well as a complete table on the distribution of the vitamins in common foods. The various types of malnutrition and their extents are pointed out insofar as they are being experienced by people in several parts of the world. The limits as to what can and what cannot be accomplished by diet are outlined, and a system of diet is laid out which is sound from the agricultural, physiological and economic standpoints. One can safely recommend this book to the seeker after nutritional truths.

The American Pocket Medical Dictionary. 14th Ed. Edited by W. A. N. Dorland. Philadelphia: W. B. Saunders Co., 1932, pp. 837. Price $2.00.

This volume contains the pronunciation and definition of all the principal terms used in medicine, surgery, dentistry, nursing and kindred sciences, and has over 50 extensive tables. It has more than three thousand new medical and nursing terms, and should be a very practical addition to the library of the dietitian.

Your Long-suffering Stomach. By Arthur F. Kraetzer, M.D. New York: Robert M. McBridge and Co., 1933, pp. 120. Price $1.50.

This book was written for the long-suffering public, and conforms more or less to the pattern of other wordy dissertations written by persons who are, at best, dilettantes in the field of nutrition. Its appeal is the much publicized "square meal" which, according to the author, consists basically of an egg, or broiled mackerel, steak, chops, meat balls, or kippered herring, a half slice of thin dry toast, and one or two cups of coffee for breakfast; for luncheon, soup, cold meat, half a slice of bread, and tea or coffee; and for dinner, soup, beef, lamb, fowl, liver, sweet-breads, or kidney, salad, green vegetables, and half a slice of bread. After reading the first forty-odd pages, written in a rather irritating sophomoric style, one reaches the gist of the thesis—that the fundamental American dietetic fault is the consumption of too much sugar, starch and roughage. Minerals are fairly useful substances, while vitamins and calories might well have been discovered to annoy the author and to afford dietitians an opportunity to "maintain that superior erudite attitude that makes them so infernally annoying." Fantasies like this (p. 117) "At times, in what I confess are moments of irritation I build up a somewhat sadistic phantasy of an *auto da fé* of dieticians, dressed in penitential garb, bowed down with shame, each with a textbook of dietetics hanged about her neck and finally delivered over to the secular arm, consisting of a French chef, a Southern mammy, a New England housewife and a Chinese cook; by them to be given one last chance to produce a meal or to be delicately strangled between the head and the shoulders without the shedding of blood" make one feel that such reactions might profitably be turned over to a competent specialist in the psychoanalytic branch of medicine. Despite all these comments, one is grateful to know that the author does know how to cook spinach "if one must," so that when served it will not drip with "sickly green liquid," tasting "like the scourings of some gloomy swamp." He is also aware of the food taboos of many hard-headed medical men and their pronunciamentos against red meat. He rightly scores the many strange food fads so quickly taken up by the gullible. His arrows are directed toward followers of vegetarianism, the solace of philosophers and romanticists; the devotees of the large colon; the "acid" balancers; and the vitamin worriers. There are some hopeful signs of enlightenment in the book. The chapter on alcohol is interesting, and seems accurately written.

M. P. H.

The following books have been received and will be reviewed in later issues of the JOURNAL:

Metabolic Diseases and Their Treatment. By Dr. Erich Grafe, translated by Margaret Galt Boise under the supervision of Eugene F. DuBois and Henry B. Richardson. Lea and Febiger, publishers.

Alcohol and Man. Edited by Haven Emerson. The Macmillan Company, Publishers.

Foods. By Margaret M. Justin, Lucile Osborn Rust and Gladys E. Vail. Houghton Mifflin Company, publishers.

Diet and Dental Health. By Milton T. Hanke. The University of Chicago Press, publishers.

CURRENT LITERATURE

KATHLEEN M. LEWIS

American Journal Diseases of Children

Vol. 46, October, 1933

* A practical application of some lessons of the self selection of diet study to the feeding of children in hospitals. C. M. Davis.—p. 743.

Diet of tuberculosis and non-tuberculosis children: Effect of increased supply of vitamin B concentrate and minerals. P. D. Crimm, I. J. Raphael and L. F. Schnute.—p. 751.

* Vegetable feeding in the young infant: Influence on gastro-intestinal motility and mineral retention. F. W. Schultz, M. Morse and H. Oldham.—p. 757.

Rickets and hyperthyroidism. B. Hamilton and C. Schwartz.—p. 775.

Effects of lactose on rickets in rats. G. Sunderlin.—p. 786.

Vol. 46, November, 1933

The body build factor in the basal metabolism of children. W. L. Lucas and H. B. Pryor.—p. 941.

Nutritional condition of new born infants. K. U. Toverud.—p. 954.

* Basal metabolism in asthma and epilepsy. A. Topper.—p. 963.

* Retardation of dental caries in outpatients of a dental infirmary. P. R. Howe, R. L. White and M. Rabine.—p. 1045.

A Practical Application of Some Lessons of the Self Selection of Diet Study to the Feeding of Children in Hospitals. Due to the results of this experiment a new plan for serving meals to children was adopted at the Children's Memorial Hospital, Chicago. Instead of sending trays from the ward kitchen, the food is placed in large containers which are put on a long cart and wheeled into the ward. The nurse recites the menu slowly, allowing each child to select whatever he may wish. No restrictions are placed on the amount or kind of food chosen. It was found possible by the use of this plan to serve a wider variety of foods, to save nurses time and labour and to reduce the amount of food waste.

Vegetable Feeding in the Young Infant—Influence on Gastro-Intestinal Motility and Mineral Retention. For the experiment four forms of spinach were used—dried, powdered, canned puréed and raw. As a check on the fiber content and the mineral content of spinach separately, the study included some periods in which cellu-flour supplemented the milk diet, and others in which an artificial salt mixture approximating the salt content of spinach was added to the milk formula. Work was done on four normal infants ranging in age from five weeks to six months.

The influence of vegetable feeding on the retention of N, Na, K, Ca, Mg, F, Cl, P, and S was found to be negligible in infants. The addition of vegetables to the diet may lead to slightly decreased retention of calcium and iron, but in no instance was there any increased retention. The addition of spinach to the milk diet did not markedly increase peristalsis, though the feces did increase in bulk.

Basal Metabolism in Asthma and Epilepsy. Results of basal metabolism tests made on 25 children with allergic asthma and 25 with true epilepsy showed the majority in each group to be normal, with a tendency to the minus side. It was believed that the reduced amount of thyroxine in the tissues could be due to excessive demands made on the thyroid gland during spasmodic upheavals, and might, therefore, be an effect rather than a cause of asthma and epilepsy.

Retardation of Dental Caries in Out-Patients of a Dental Infirmary. At the Forsythe Dental Clinic in Boston, 132 children between the ages of 2 and 11 years were selected at random for dietary experimentation in the reduction of dental caries. The patients were sent to nutritional departments where the mother and child were given dietary instruction. One hundred and four were coöperative and showed a reduction of 79.21 per cent in dental caries. The non-coöperative patients showed an increase of 12 to 97 per cent in dental caries.

American Journal of Physiology

Vol. 106, November, 1933

Some atypical responses of rabbits to insulin. I. T. Zeckwer.—p. 273.

* The influence of nervous stimulation on absorption from the intestine. E. Gellhorn and D. Northup.—p. 283.
Studies on fluorine in the nutrition of the rat. A. R. Lamb, P. H. Phillips, E. B. Hart and G. Bohstedt.—p. 350.
Studies on fluorine in the nutrition of the rat. P. H. Phillips, A. R. Lamb, E. R. Hart and B. Bohstedt.—p. 356.
Carbohydrate metabolism, respiration and circulation in animals with basal metabolism heightened by dinitrophenol. V. E. Hall, J. Field, M. Sahyun, W. C. Cutting and M. L. Tainter.—p. 432.
* Studies in the nutritional anemia of the rat. Observations on the anemia of pregnancy. H. H. Beard and V. C. Myers.—p. 449.
Eye reactions in pancreatic diabetes. M. E. M. Sawyer.—p. 491.

THE INFLUENCE OF NERVOUS STIMULATION ON ABSORPTION FROM THE INTESTINE. The absorption rate of glucose from the intestine of a frog can be altered by stimulation of the autonomic nerve, all other conditions being constant. The rates produced are similar to those found after the administration of acetylcholin and adrenalin. These results are in favor of the humoral theory of the action of the autonomic nerves, and prove the autonomic nerves alter cellular permeability.

STUDIES ON THE NUTRITIONAL ANEMIA OF THE RAT—IX. OBSERVATIONS ON THE ANEMIA OF PREGNANCY. Anemia observed during pregnancy of rats showed a reduction of hemoglobin averaging an excess of 20 per cent and exceeding 40 per cent in about one-third of the pregnancies. The reduction in red cells averaged above 40 per cent. There was a rapid return to normal as early as one week after the birth of young. Liver extract and yeast did not prevent this anemia which is somewhat analogous to the nutritional anemia occurring during early growth. The addition of iron to the diet of pregnant rats had a retarding influence upon the regeneration of hemoglobin.

American Journal of Public Health

Vol. 23, October, 1933

* Natural and induced variations in the vitamin values of milk. H. C. Sherman.—p. 1031.
Food poisoning—A public health problem. J. C. Geiger and J. P. Gray.—p. 1039.

NATURAL AND INDUCED VARIATIONS IN THE VITAMIN VALUES OF MILK. Vitamin A can be stored in the cow's body in relatively large amounts, so as to furnish vitamin A during periods when the vitamin A intake is low; therefore, it is constant. The vitamin B content of milk is under physiological control, in that the normal vitamin B value is quickly regained as soon as the cow is normally fed. Vitamin C can be decidedly influenced by feeding, as was found by Dr. Hess of New York. Three methods of enrichment of milk in vitamin D are: the direct addition of a vitamin D concentrate, the irradiation of the milk and the feeding of irradiated yeast or other suitable irradiated material. These methods have all been shown effective and practical. Methods for the quantitative measurement of the vitamin E values have not been developed and standardized to the same degree as the other vitamins. The precise evaluation of vitamin G content must await further research.

American Restaurant Magazine

Vol. 16, November, 1933

The fine art of salad making. H. Ewing.—p. 30.
School food-service problems. F. F. Marshall.—p. 35.
How the wheat tax affects you. Horwath and Horwath.—p. 40.

Annals of Internal Medicine

Vol. 7, October, 1933

Bilateral splanchnic nerve section in juvenile diabetic. G. de Takats and G. K. Fenn.—p. 422.
* Evaluation of therapy in chronic atrophic arthritis. W. P. Holbrook.—p. 457.

Vol. 7, November, 1933

Hepatic pathology in exophthalmic goiter. C. V. Weller.—p. 543.
* Gastrointestinal allergy in children. H. Casparis.—p. 625.

EVALUATION OF THERAPY IN CHRONIC ATROPHIC ARTHRITIS. One thousand patients were treated by general measures with rest, exercise, heat, massage, prevention and correction of deformities, diet and bowel management. Removal of foci of infection, transfusion, vaccine and other special methods were used on four comparable groups. The results of the experiments proved the non-specificity of any therapeutic agent used. Vaccine has a definite but limited place in the treatment. A warm, dry climate with

minimal barometric variations, at present, seems the most essential therapeutic treatment.

GASTRO-INTESTINAL ALLERGY IN CHILDREN. Strong evidences of allergy are a positive skin test, a familial history of the allergy, and persistent vomiting which is relieved only upon removal of the causative food and recurs upon the addition of it to the diet. Intestinal manifestations are colic, frequent bowel movements containing mucus, and the passage of a great deal of gas. The treatment of such a condition is to remove the offending food from the diet, or to modify the food so that it will not cause the symptoms (heating of milk destroys some factor to which many children are allergic) or to modify the patient's response to the food by desensitization.

Hotel Monthly

Vol. 41, October, 1933

Quick frozen fruits and vegetables. E. C. Winans and M. S. Ehlers.—p. 54.

Vol. 41, November, 1933

Wines on the menu. A. Shircliffe.—p. 31.

* Table linen for hotel use. M. B. Hays and J. D. Guerin.—p. 43.

Quick frozen fruits and vegetables. E. C. Winans and M. S. Ehlers.—p. 54.

The service of wines and liquors. M. Teich.—p. 58.

TABLE LINEN FOR HOTEL USE. Purchasing agents have found the specifications for table linens issued by the Federal Specification Board which give the kind of fiber, percentage of dressing, amount of bleaching, the weave, size of hem, minimum thread count, weight and tensile strength, the most accurate measure. For long service, fabric made from line yarn twist gives increased resistance. A heavy linen will wear longer than one of light weight. Double damask is stronger than single damask because it has more filling threads to the inch. Studies of discarded linen and laboratory tests show: (1) wear lines are parallel to selvages and hems, (2) figured designs are not so serviceable as regular striped patterns, (3) weaknesses appear where the weave changes, (4) holes appear in corners where they have been held by shakers, (5) most of the breaks occur on the border sections and are due to failure in filling.

Journal American Medical Association

Vol. 101, October 21, 1933

Vitamin B deficiency and the atrophic tongue. A. M. Hutter, W. S. Middleton and H. Steenbock.—p. 1305.

Vol. 101, November 4, 1933

* Chronic ulcerative colitis: A disease of systemic origin. L. A. Bine and J. A. Bargen.—p. 1462.

Use of dinitrophenol in obesity and related conditions: A progress report. M. L. Tainter, A. B. Stockton and W. C. Cutting.—p. 1472.

Basal metabolism of Chilean Indians. Current Comment.—p. 1487.

Vol. 101, November 18, 1933

Fundamental difficulties in the treatment of peptic ulcer. W. L. Palmer.—p. 1604.

The health hazard of amebic dysentery: Report of an outbreak. H. N. Bundesen, I. D. Rawlings and W. I. Fishbein.—p. 1636.

* The threat of amebiasis in the food handler. F. O. Tonney, G. L. Hoeft and B. K. Spector.—p. 1638.

Amebic dysentery. A review.—p. 1639.

Vol. 101, November 25, 1933

The present status of idiopathic ulcerative colitis with especial reference to etiology. M. Paulson.—p. 1637.

The extent of the retention of ingested aluminum. E. W. Schwartze, G. J. Cox, R. B. Unangst, F. J. Murphy and H. B. Wigman.—p. 1722.

CHRONIC ULCERATIVE COLITIS. After nearly ten years the part played by bacteria in the etiology of chronic ulcerative colitis has been established. The clinician, the proctologist and the bacteriologist performed this task individually. The microörganism can be seen in the bowel and recognized by appearance, cultural characteristics and biologic reaction. The lower portion of the colon is first affected; the second stage begins with the appearance of edema throughout the involved area. During the third stage miliary abscesses present themselves under mucous membrane and with these ruptured, the fourth stage manifests itself.

THE THREAT OF AMEBIASIS IN THE FOOD HANDLER. More frequently now than ever before are found in the doctor's professional vocabulary such synonyms as amebiasis, amebic dysentery, amebic colitis, enteritis, protozoan parasite, Endamoeba histolytica,

and cysts—which is all due to the two recent outbreaks of 1927 and June, 1933. The parasite has become prolific to the extent of three to ten per cent of the population being infected, which has brought growing danger to the public health. The source may be due to immigration, travel, growing consumption of raw fruits and vegetables, employment of cheap labor in kitchens of commercial eating places, lack of personal cleanliness among food handlers, lack of facilities for personal cleanliness and lack of psychology of cleanliness in kitchens. Food handlers were responsible for the two outbreaks which resulted in sixteen clinical cases, and eleven carriers of the encysted Endamoeba histolytica were found among three hundred and sixty-four food handlers. The most plausible primary source of the outbreak indicated an old carrier of the 1927 outbreak.

Journal of Biological Chemistry

Vol. 102, October, 1933

The relation of iron and copper to the reticulocyte response in anemic rats. M. O. Schultze and C. A. Elvehjem.—p. 357.

Arginine metabolism. The relation of the arginine content of the diet to the creatine-creatinine production during growth. C. E. Meyer and W. C. Rose.—p. 461.

Buffer intensities of milk and milk constitutents. Buffer action of calcium phosphate. E. O. Whittier.—p. 733.

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Some aspects of citric acid metabolism. A. C. Kuyser and H. A. Mattill.—p. 51.

* The availability of iron from different sources for hemoglobin formation. C. A. Elvehjem, E. B. Hart and W. C. Sherman.—p. 61.

The dietary production of fatty livers in rats. N. R. Blatherwick, E. M. Medlar, P. J. Bradshaw, A. L. Post and S. D. Sawyer.—p. 93.

* Isolation and identification of some hitherto unreported fatty acids in butter fat. A. W. Bosworth and J. B. Brown.—p. 115.

The linoleic and linolenic acid contents. H. C. Eckstein.—p. 135.

Human milk studies. A critique of the determinations of nitrogenous constituents. B. N. Erikson, N. Stoner and I. G. Macy.—p. 235.

The rate of change of alkali reserve after ingestion of salts of organic compounds. Normal variations in acid base balance under basal conditions. J. Cope and E. L. Sevringhaus.—p. 257.

THE AVAILABILITY OF IRON FROM DIFFERENT SOURCES FOR HEMOGLOBIN FORMATION. Results presented in this paper show the relation of available iron to iron compounds. Detailed results are given for wheat, oats, yeast, ferric chloride, ferric pyrophosphate, ferric glutamate, ferric hypophosphate and glutamic acid parahematin. Two facts are established; first, that the value of various foods as a source of iron cannot be based entirely upon their total iron content; secondly, that various forms of non-hematin iron, even soluble salts, are much superior to hematin compounds as a source of iron for the body.

ISOLATION AND IDENTIFICATION OF SOME HITHERTO UNREPORTED FATTY ACIDS IN BUTTER FAT. The methyl esters of the fatty acid of a typical specimen of creamery butter were fractionated into thirty-seven fractions. A curve was plotted, based upon the total iodine absorption value of each of the fractions and by means of this curve the presence of decenoic and tetradecenoic acids was predicted and proved. The presence of hexadecenoic (palmitoleic) acid and eicosenoic (gadoleic) acid was doubtful. There seems to be evidence of the presence of a C_{20}, a C_{22}, or a C_{24} acid with two double bonds. Highly unsaturated acid of the arachidonic type was found. From the four highest fractions there was isolated a mixture of saturated acids of high molecular weight, consisting principally of tetracosanoic (lignoceric) acid along with probably small amounts of behenic and cerotic acids.

Journal of Nutrition

Vol. 6, November, 1933

Growth of rats fed high protein rations supplemented by different amounts and combinations of vitamins B, G and B complex. L. D. Francis, A. H. Smith and L. B. Mendel.—p. 493.

The possibility of glyconeogenesis from fat. E. E. Hawley, C. W. Johnson and J. R. Murlin.—p. 523.

Other factors than vitamins B and G in the vitamin B complex. R. C. Lewis.—p.559.

Modern Hospital

Vol. 41, November, 1933

Training dietitian internes. M. T. Porter.—p. 104.

Thanksgiving dinner on a hospital tray. L. B. Lynch.—p. 110.

November dinner menus for the general hospital patient. P. D. Rowe.—p. 114.

ASSOCIATION PROGRESS

THE PRESIDENT'S MESSAGE

Our constitution states "The object of this Association shall be: To bring about closer coöperation between dietitians and those in allied fields, in order that more effective work may be done in improving conditions and raising standards of dietary work, and the training of dietitians."

While this goal is all-inclusive in the direction of real progress for the profession, we must work also toward another objective, the maximum development of our members individually. The local and state associations should serve as proving grounds for the latent as well as the evident abilities of their members. Each member should be given an opportunity to grow, through assigned association tasks, just a little beyond her present stage of development; encouragement and the pointing out of any shortcomings, together with the training obtained in offices successively filled, make for consistent personal growth and eventual eligibility for national office.

The leaders of each state or local group should be wise, sympathetic and understanding, and above all should possess the faculty of evaluating both members and results from an impersonal viewpoint. They must realize that the acceptance of any office carries with it real responsibility and the obligation to give of their very best. As leaders they are watched and observed by younger members just beginning their first jobs, and by those prospective members who are taking student training in our American Dietetic Association accredited graduate courses.

State officers have the added duty of testing and comparing the inherent strengths and weaknesses of each local or state member, in the search for national timber. The affiliated state associations are really responsible for the criticism that the Executive Committee of the American Dietetic Association resembles a French Cabinet—"since at each election each member appears to walk out with his portfolio and walk right back in again." If state officers, themselves, do not know the abilities of their own members, how can they expect wise national appointments in the absence of facts upon which to base decisions? The responsibilities—yes, and the honors—of national office should not be given to members who have not been tested to determine whether they possess the personal, professional and leadership capacities that national office demands. National office means work and yet more work, with an altruistic motive—the promoting of our profession's consistent progress and our members' individual growth, our two criteria of success in the attainment of self-imposed goals. State, local or national office should be a reward of merit, not an honor handed out to salve an imaginary hurt, or in simple recognition of years of service.

It was recently my privilege to observe a good example of the sense of responsibility of state officers, in the conduct of the business session at the annual meeting of our newly affiliated New Jersey State Dietetic Association. The values, painstaking effort and feeling of responsibility, which the carefully made plans evidenced, were most inspiring. The enthusiasm developed—by the little things—augured well for the future progress of the group.

The questionnaire sent out last summer by the Affiliation Chairman, asking the active members in the affiliated state associations to list facts about their professional activities, national meetings attended, etc., was designed to secure data which would prove helpful in detecting types of ability among our members and so serve as guides in making appointments. The replies were analyzed by an able committee under the chairmanship of Gertrude McDonald, dietitian, Peter Bent Brigham Hospital, Boston, and all the original sheets, together with the committee's summary, were returned to the President for her use this year. The analysis shows that all but four of the twenty-three affiliated states had some members who were sufficiently interested to return replies. Of these eighteen states returning

replies, Colorado has the enviable record of so organizing the distribution of the questionnaire as to secure replies from over fifty per cent of its members. The analysis revealed the interesting fact that one member had attended fifteen annual American Dietetic Association meetings, one, thirteen, and quite a number, eight, seven, and six, respectively, while the majority of members, as was expected, had one or two meetings to their credit. We were surprised to find that our members who replied had published articles in seventeen professional and trade journals, seven popular bulletins and magazines, and had addressed twenty professional associations. The publications included such representative ones as:

Journal of Metabolic Research
Annals of Internal Medicine
Journal of Biological Chemistry
American Journal of Physiology
Journal of Nutrition
White House Conference on Child Health (bound volumes)
Hospital Management
Modern Hospital
Journal of Home Economics
Journal of the American Dietetic Association

The groups addressed included the:

American Hospital Association
National Restaurant Association
American Home Economics Association
American Dental Association
State Parental Education Institute (in Michigan and elsewhere)

The proposed strengthening of several American Dietetic Association boards and committees during 1933–1934 should result in a large number of new Presidential appointments designed to secure more general national participation and support from the affiliated state associations, local groups and individual members.

QUINDARA OLIVER DODGE.

PROGRESS IN TRAINING STUDENT DIETITIANS

An outline of the program of work for student dietitians at the Massachusetts General Hospital, one of the oldest and most favorably known institutions in North America, was recently received at the JOURNAL office through the courtesy of the chief dietitian, Marion D. Floyd. Routine monthly meetings are held for the dietetic staff. Weekly seminars on problems of administration, diet therapy, and other pertinent topics, afford an opportunity for discussions of current problems. Members of the staffs of affiliated hospitals take turns conducting these meetings. The students report to the chief dietitian every week with a written report. Student dietitians from a number of Boston hospitals meet one evening a week, at which time head dietitians take turns attending with the students. The various dietitic departments choose a professional publication on which to report at the seminars. Among the special problems that have been undertaken are the following: a study of student nurses' courses and diet kitchen organizations; methods of maintaining interesting, up-to-date bulletin board; planning of seminar programs; a study of recipes for cost finding and price fixing; methods of arranging social activities and trips; and a study of written forms now used for student records.

Miss Floyd has prepared an interesting introductory course for the student dietitians in which they are instructed in hospital life, means of attaining professional advantages in Boston, how to maintain good health, and are also informed with regard to ethics and standards for dietitians, the last an especially important item in safeguarding future success. A well-rounded program of lectures from dietitians, nurses, librarians, teachers, institution managers, purchasing agents, and equipment manufacturers is given, as well as the customary lectures from physicians, who present the hospital viewpoint in diet therapy. One expects, and is not disappointed, to find this famous old hospital, noted for its training of nurses, among leaders in the courses given to student dietitians.

Frances Floore, director of dietetics at St. Luke's Hospital, Chicago, writes that she recently called a meeting of dietitians offering accredited courses in Chicago, to discuss plans for having joint medical lectures and field trips. The first joint meeting was held at St. Luke's Hospital early in Novem-

ber when a lecture on "The Anatomy of the Gastrointestinal Tract" was given. A series of lectures and field trips has been planned for the student dietitians.

The local Administration Section of Seattle, Washington, has been instrumental in promoting group activities among the student group. Three standing committees have been formed, and each student dietitian has been assigned to one of these committees, where she will work consecutively until graduation unless circumstances make it desirable for her assignment to be changed. The senior student on each committee will be its chairman, and a staff dietitian will act as advisor. Activities have been divided into three phases: (1) "Recipes." Available new recipes will be standardized and checked in metric weights and measures, printed or mimeographed, and made available for purchase by members of the group. Recipes now in use in the local hospitals will be compiled. The Misses Brooks, Ray and Heinrich serve on this committee, and Miss Wallace is the adviser. (2) "Menus and Economies." Available literature will be searched for suggestions with regard to menus and economies. Data will then be made available in card form for filing. Mrs. Schroeder and Miss Wilson serve on this committee, and Miss Manis is advisor. (3) "Bibliography." Current literature will be abstracted and reported monthly at seminars, and arranged in card form for filing. This committee has already signified its willingness to assist the Association in abstracting administrative material. The Misses Brakel, Patterson, Nightingale and Greene serve on this committee, and Miss Cox is the advisor.

Mrs. Dorothy Stewart Waller, director of dietetics and housekeeping at The University Hospital of the University of Michigan writes "You may have heard about the University Hospital Council. It is a group of about five Directors and right hand men who have had three of four extremely well organized round tables. It has been suggested that they bring their dietitians to the next meeting, making Dietetics the 'theme song'."

AFFILIATIONS IN APPROVED HOSPITALS

St. Luke's Hospital, Chicago, has lengthened its course to ten months, and has affiliated with the Billings Memorial for training. The hospital is no longer affiliated with Harding's Restaurant, Belden-Stratford Hotel, and Merchandise Mart.

The Rochester General Hospital, Rochester, N. Y., has added the Park Avenue Hospital to its list of affiliations.

The Mt. Sinai Hospital, Cleveland, Ohio, and the University Hospitals of the same city have added the Cleveland Clinic Hospital to their list of affiliations.

The Vanderbilt Hospital (Nashville, Tenn.) affiliations are the Metropolitan Life Insurance Nursing Service and the Y. W. C. A. cafeteria.

The Waterbury Hospital, Waterbury, Conn., announces that Sylvia A. Wagner has taken Miss Bryant's place as chief dietitian. She is assisted by Marjorie Burr, and has arranged with Claire M. Gordon for affiliation with the Manchester Memorial Hospital. Miss Wagner has extended the course to nine months.

The University of Oklahoma has added the Child Welfare Association to its list of affiliations.

Watts Hospital, Durham, North Carolina, has added as affiliations, the State Hospital, Raleigh, North Carolina, and the Emergency Relief Administration, Durham, North Carolina and Person County, North Carolina.

PROBLEMS CONFRONTING HEADS OF APPROVED COURSES

An interesting account of the discussions presented at the Chicago luncheon for heads of approved courses was sent in to the JOURNAL by Maniza Moore. Mrs. Bryan's report of the efforts of all dietitians to improve the content of the courses by affiliation and by exchange of ideas and even of assistants opened the way for discussion of the obstacles which may appear to block any good plans. Winifred Ericksen and Nelda Ross described situations which might create dissatisfaction among affiliating hospitals. They emphasized that there should

be an understanding of professional ethics, and that the spirit of coöperation among the heads of departments could do much to smooth out the difficulties.

Mrs. Bryan felt that it would assist colleges training dietitians if the heads of the approved courses made student dietitian appointments at the end of the student's last college semester, and that alternates be enrolled for one-half the regular appointments. This plan was approved. The lively general discussions among the group indicated great enthusiasm and interest, and the animated conversation and exchange of ideas were representative of the purpose of a real convention.

RESEARCH GRANTS IN HOSPITALS GIVING APPROVED COURSES

The Indiana University Hospitals announce through Lute Troutt, chief dietitian, that the Hugh K. Landon and Jessie Spaulding Landon Research Fund of Indianapolis has made it possible for them to carry on a problem in "Self-selection of Diets by Children." The investigation will be conducted at the Rotary Convalescent Home, as one of the projects of the Diet Therapy Section of the American Dietetic Association, of which Miss Troutt is chairman. Virginia Speicher, the sub-chairman, has begun work on the problem.

This study, which in the final analysis is a comparison of the nutritional value and cost of a balanced diet and a diet freely chosen by the child over a number of months, is similar to work which Dr. Clara M. Davis did in the Children's Memorial Hospital in Chicago. It is expected, however, to emphasize, in this investigation, more detailed and accurate records for use as a basis, and on which to base the conclusions.

The Department of Dietetics at the University of Michigan Hospital has received gifts which have made possible two sustaining fellowships for graduate study in dietetics. Under these grants Lucy Wilson, B. S. University of Missouri, is studying the rôle of diet in treatment of colitis, and Anabel Robb, B. S. Michigan State College, is studying the relation of diet to the healing of fractures. Both have recently completed their year of dietetic training at the University Hospital. This work is under the director of the department, Mrs. Dorothy Stewart Waller.

CALIFORNIA LEADS AGAIN

November, 1933, marked the appearance of the first issue of the *Bulletin of the California Dietetic Association*. This progressive affiliated state group has long been noted for its strong and active organization. The members have again indicated their forward-moving spirit in presenting this quarterly publication which should strengthen and further their affiliation bonds with the national association. Katharine Brown, 511 So. Bonnie Brae, Los Angeles, is the editor, and Shirley Engle the associate editor. Section representatives are Grace Miksch for Los Angeles section, Marguerite Richards for San Francisco section, Christine Ricker for San Jose section, and Eloise Maxwell for Santa Barbara section.

Reeva Hinyan's report of the 1933 American Dietetic Association convention indicates a clear understanding and sympathy with Mrs. Dodge's well-formulated and earnest plans for furthering strong state and local affiliations. Miss Hinyan notes appreciately the plan for exchange of assistant dietitians, introduced by Dr. Daum and Mrs. Bryan; Emily Edson of Good Samaritan Hospital, Portland, is the first dietitian to serve as an "exchange assistant dietitian" with the University of Iowa Hospital. The suggestion of an exchange assistantship between a California and either a New York or Boston hospital is presented. Among the contributors to this first issue are: Dr. F. C. Smyth, "Some Problems in Dietotherapy;" Dr. M. L. Tainter, "Dinitrophenol as a Metabolic Stimulant," and Helen B. Thompson, "Field Work in Nutrition and Dietetics."

NEWS NOTES

The Seventeenth Annual Meeting of the American Dietetic Association will be held at the Mayflower Hotel, Washington, D.C., during the week of October 14, 1934. An active publicity campaign is being developed by Esther Kimmel of the Herald Tribune Institute, 230 West 41st Street, New York City, in which she will enlist the aid of local and state publicity chairmen in developing publicity in related professional publications, the lay press, and this JOURNAL.

Ruth Atwater has been appointed chairman of local arrangements for the meeting.

Note to Secretaries of Local and State Associations. There seems to be some misunderstanding regarding the date when news notes can be received for publication in the JOURNAL. Such notes should be received at the office of the editor, 51 E. 78th Street, New York City, *not later* than the first week of December, February, April, June, August and October, in order to appear in the next month's issue of the JOURNAL. It would assist the editor materially if an original copy is sent, double-spaced, and written in the third person. Past tense should be used for events which will have occurred before publication, and "Miss" should be omitted before the names of members.

The sudden and untimely death, on December 14, of Mrs. Dorothy Stewart Waller, a beloved member of the American Dietetic Association, comes as a great shock to her many devoted friends and associates. Possessed of unique qualities of personal charm, and always a zealous seeker after scientific truths, Mrs. Waller had long been a leader in her chosen profession where she had done notable and brilliant work. She was a past chairman of the Diet Therapy Section, an earnest, ever loyal member of the JOURNAL Board, and director of the department of dietetics of the University Hospital, Ann Arbor, Michigan. The tragic suddenness of her death leaves a vacant place difficult to fill.

California Dietetic Association. Los Angeles Section. The seventy-fifth meeting of this section of the state association was held at the Women's Athletic Club on November 6, 1933, with 55 persons present. Following dinner Dr. Bruce McGill Harrison gave an illustrated talk on "The Embryological Development of the Digestive Tract." Reeva Hinyan gave a report of her trip to the American Dietetic Association convention in Chicago.

After the program Mrs. Alice Goss, chairman, called the business meeting to order. Mary Smull, section program chairman, announced that the December meeting would be an entertainment given by the famous Alvera Puppeteers in the auditorium of the Cedars of Lebanon Hospital. Virginia Russell, state membership chairman, urged all members to send her names of persons eligible for membership. Katharine Brown, state public relations chairman, announced that the first issue of *The Bulletin* had gone to press. Elizabeth Hayward, state program chairman, led a discussion of the ways and means of raising money for the 1934 convention to be held in Pasadena.

San Francisco Section. The monthly meeting of the Northern section of the state association was held at Alta Bates Hospital, Berkeley, November 14, 1933. Teachers of foods and nutrition in the Oakland and Berkeley schools were invited to attend. Thirty-three persons were present. In view of the interesting speakers on the program, the business meeting was postponed until a future time.

Lois Godfrey, a consulting nutritionist in Oakland, told briefly of her work and the difference between it and that of a hospital dietitian. Dr. Agnes Fay Morgan, professor of household science, University of California, discussed the "Newer Aspects in Nutrition" under four headings: the improvement; diet and dental health; vitamin A and prevention of infections; and vitamin D and hypervitaminosis.

After the program, Dorothy Cross, dieti-

tian at Alta Bates Hospital and hostess for the evening, served refreshments.

Santa Barbara Section. The November meeting was held at the Sansum Clinic, with Ruth Bowden as hostess. It was voted that all the meetings be held at the Clinic. The election of officers was as follows: chairman, Ruth Bowden; vice-chairman, Mary Sedgwick; secretary-treasurer, Lucille Hall. Following the election of officers a discussion of the new bill for registration of California dietitians was held. Miss Bowden served light refreshments and the remainder of the evening was spent in a social way.

Santa Jose Section. The November meeting, held at the Palo Alto Hospital, was a joint meeting with the Palo Alto nurses to hear Dr. Milton Saier discuss allergic diseases.

After the discussion the groups separated for business meetings and social hour. The December meeting was held at the San Jose Teachers College.

Georgia Dietetic Association. A group of food and nutrition workers from every section of the state met October 21, at the Frances Virginia Tea Room for the purpose of organizing a Georgia Dietetic Association. Leila Bunce, supervisor of home economics of Fulton County Schools, presided. Maurene Owens, Emory University Hospital, was appointed secretary pro-tem. Outlines of the purpose and work of American Dietetic Association and of Tri-State Dietetic Association were discussed by Jessie Harriss, Emory University Hospital, and Viola Foy, Piedmont Hospital. Lucia Hunt, Strickland Hospital, presented the need for a Georgia Dietetic Association. Daisy Daniel read a telegram of greeting from Mrs. J. A. Murray, president of Georgia Home Economics Association. A draft of a temporary constitution was presented and accepted. The nominating committee, Daisy Daniel, Miss Foy and Mary Brooks, read the following nominations which were accepted: Lucia Hunt, president; Catherine Newton, Georgia State College of Agriculture, Athens, vice-president; Jessie Harriss, secretary; and Gussie Tabb, Georgia State College for Women, Milledgeville, treasurer.

The next meeting of the association will be held prior to the Georgia Home Economics Association's annual meeting in the Spring.

Charter members of the organization are:

Viola Foy, dietitian, Piedmont Hospital, Atlanta.

Nellie Turner, Seewanee.

Jessie Harriss, dietitian, Emory University Hospital.

Maurine Owens, assistant dietitian, Emory University Hospital.

Louise Forkner, School Lunch Room, Avondale Estates.

Marguerite H. Meyers, dietitian, City Hospital, Columbus.

Mary L. Brooks, teacher home economics, Fulton High, Atlanta.

Daisy Daniel, teacher home economics and director of school cafeteria, O'Keefe Jr. High School, Atlanta.

Luella M. Rouse, home economics director, Girls High School, Atlanta.

Leila Bunce, supervisor home economics of Fulton County.

Mattie J. Ridgeway, dietitian, Grady Hospital, Atlanta.

Mrs. Leland R. Alexander, dietitian, Dawson Hall, Athens.

Mrs. S. F. Mayer, dietitian, Georgia Baptist Hospital, Atlanta.

Grace Gibson, dietitian, Oglethorpe Private Infirmary, Macon,

Mrs. Loraine Haynie, dietitian, Emory University Cafeteria, Emory University.

Catherine Newton, assoc. professor foods and nutrition, University of Georgia, Athens.

Mrs. B. H. Knapp, mgr. Terrace Dining Room, Atlanta.

Rebecca Moore, dietitian, Lane Drug Stores, Atlanta.

Clara Hasslock, chairman School of Home Economics, G.S.C.W.

Clara Lee Cone, Atlanta.

Leah Ascham, research worker, Georgia Experiment Station.

Clara E. Morris, ass't. professor of home economics, Georgia State College for Women, Athens.

Rosabel Burche, home economics dept. G.S.C.W.

Emma Lee Jordan, teacher home economics, Atlanta.
Laurene Harris, dietitian, Eggleston Hospital, Atlanta.
Gretchen Rabé, ass't. dietitian, Grady Hospital, Atlanta.
Clara Ashworth, Atlanta.
Ruby Gillis, dietitian, Georgia Academy for the Blind, Macon.
Lucille Smith, first ass't. dietitian, Grady Hospital, Atlanta.
Lucia Hunt, Strickland Memorial Hospital, Griffin.

Prominently displayed notices of the meeting appeared in the Atlanta press.

The Greater New York Dietetic Association met on October 16, 1933, at the Hotel Empire. Dinner was served promptly at 7:15 p.m., followed by a meeting planned on educational lines with: "Nutrition in Social Service," by Bertha Edwards, East Harlem Nursing and Health Service; "Emergency Relief Service," Sue Sadow; and "Report of the Convention of the American Dietetic Association," Nelda Ross, Medical Center.

The president, Dorothy DeHart, opened the meeting with the welcoming of new members. She then read a letter from the president of the state association in which the local association was invited to affiliate with the state group. It was announced that the matter of affiliation would be presented to the members and would be voted upon at the next meeting. All members were invited to attend the Graduate Fort-Night Meetings held at the New York Academy of Medicine. The New York Nutritionists issued an invitation to the association to join them at a meeting in support of the new Food and Drugs Bill which will come before Congress this January. Concerning the American Home Economics Association's convention in June 1934, the local dietetic association will assist in any constructive measure that it is called upon to do. The meeting was attended by 125 members.

The association met on November 6 at the Hotel Empire for dinner and a meeting. The program was on "Factors Controlling Food Costs," with discussions on "Marketing Conditions in New York City" by George G. Royce, director of the New York City office of Department of Agriculture and Markets, and "Problems of the Buyer" by Adeline Wood, supervising dietetian, Mount Sinai Hospital. All members were urged to invite their purchasing agents to the meeting. The question of affiliation with the New York State Association was presented to the group, discussed, voted upon and accepted. The secretary was asked to forward word to the state group for further action. On November 24 the association met with the New York Nutritionists in the auditorium of the United Charities Building, 109 East 22nd St., for a meeting in support of the new Food and Drugs Bill. Exhibits in support of the bill were on view. On November 22 the dietitians were guests of Loose-Wiles Biscuit Company, with a tour through the factory and luncheon made possible by Madame Metzelthin. On November 27 a tour through Schrafft's kitchen in the Chrysler Building and also New York's skyline from the tower was enjoyed by many. Tickets were sold at fifty cents—fifteen cents of which was for the employment fund.

The association held its December meeting at the Hotel Empire, with a program on "Fitting the Job." The speakers were Mrs. Beatrice Henry, an efficiency expert, who discussed "Efficiency in Organization," and Mrs. Mable S. Gartner, formerly personnel manager at Schrafft's, who talked on "Selecting Personnel."

District of Columbia Dietetic Association. Mrs. Franklin D. Roosevelt was the guest of honor at the joint dinner meeting with the Home Economics Association of the District of Columbia held at the Washington Hotel, November 21. Following the dinner, Mrs. Mary Harriman Rumsey, chairman of the Consumer's Advisory Board of the N.R.A., presented Dr. Dexter M. Keezer, director of the Consumer's Advisory Board, who spoke on the work of this organization.

During the month of October, Ruth Atwater, of the National Canners Association and president of the District of Columbia Dietetic Association, was a guest editor of *McCalls Magazine.* Miss Atwater was the second of three guest editors invited to assist

with the new policy adopted this year by this magazine. Each of the guest editors is to do a special piece of work for one month. Miss Atwater did work on the development of uses for canned vegetables and her first article will appear in the March number.

Mrs. Grace Hunter Young, formerly chief dietitian at Walter Reed General Hospital, is now living in New York. Helen Burns succeeded Mrs. Young as chief dietitian.

Indiana Dietetic Association members were guests of the Home Economics Department of Purdue University at the regular November meeting. Dean Mary L. Matthews arranged the program and acted as hostess. Tours of the home economics building, the campus, various university buildings, and the Lafayette hospitals were made during the afternoon.

One was impressed by the excellent equipment in the home economics building. Nutritional exhibits of merit were on display by Dr. Marguerite Mallon and her classes. An interesting table of unusual fruits and vegetables arranged by the classes of Miss Bloye was observed. The class in meat roasting under Dr. Sunderland was noted with interest. Dinner, prepared by advanced students under the direction of Edith Gamble, head of institution management, was served. The dinner speakers were Dr. Marguerite G. Mallon and Dr. Louise Meikle.

Iowa State Dietetic Association. The semi-annual meeting was held at Des Moines, Iowa, November 3, 1933. Dr. W. D. Abbott of Des Moines talked on "Ketogenic Diets in Migraine Headaches and Brain Surgery." Priscilla Wayne gave a talk on "Soup Kitchens."

Luncheon was served at the Fort Des Moines Hotel, following which there was an informal discussion on the meeting of the American Dietetic Association. Clara Robinson gave a report on the national restaurant meeting. At 2:00 p.m. the meeting was called to order by the president who gave a report on American Dietetic Association projects. Amy Standing, Methodist Hospital, Des Moines, was appointed treasurer to succeed Evelyn Fresk. Dr. Peck, president of the State Tuberculosis Association, spoke on "Rational Diet in Tuberculosis." Caroline Kendall, Children's Hospital, Iowa City, presented a paper on "Iron Utilization at a High Level in the Intestines." Lucia Fordyce of Ames talked on "Problems in Operating Your Own Restaurant." Mr. Lowe talked on the new Food and Drug Act. A trip to Smouse School was a part of the afternoon program. The meeting closed with a dinner served at Grace Ranson's Tea Room.

The Kansas City Dietetic Association elected these officers for the year 1933–1934: president, Emily Shirkey, dietetian, Mercy Hospital; vice-president, Nellie R. Evans, manager, Business and Professional Women's Club Tea Room; corresponding secretary, Vada C. Manning, Board of Education; secretary, Wilhelmina Krumsick, dietetian, Trinity Lutheran Hospital; and treasurer, Mrs. John F. Huff, 4509 Indiana Ave.

The Maryland Dietetic Association held its regular meeting on October 18, at the Baltimore Red Cross headquarters. Mrs. Lambert of the Red Cross was hostess. Mildred Backie, the first speaker of the evening, gave an interesting résumé of the work of the Red Cross, with particular emphasis on the contribution of the dietitian. Mrs. Lambert then gave a short talk on the work in Baltimore, and conducted the group over the building. After this, Mr. Ernshaw, of the U. S. Department of Agriculture, spoke on the new Food and Drugs Act which is to control the preparation and sale of cosmetics as well as foods and drugs, and is to bring all forms of advertising of these products under the law. The motion was made and carried to have the secretary write to Maryland senators and congressmen and urge the passage of this act. There was an unusually large attendance at this, the first business meeting of the year.

On November 8 the association had a dinner meeting in a private dining room at Miller Brothers' Restaurant. Elfreide Kübler was hostess and had arranged a delightful evening. The menus were written in German and the favors were small paper hats. After

a German dinner, Dr. E. Feise, professor of German at Johns Hopkins University, talked on German folklore, and sang folksongs, playing his own accompaniment on a lute. He distributed mimeographed sheets of choruses of the songs, and everyone joined in the singing. All discussion of business was waived until the next meeting.

Mrs. John T. Baer has recently opened Andover House at 10 E. Franklin Street.

Ruth Taborn, a graduate of the University of Illinois, is now therapeutic dietitian at the Johns Hopkins Hospital, having completed the post-graduate course in dietetics at the Michael Reese Hospital.

Althea Russel, who recently completed the post-graduate course in dietetics at the Johns Hopkins Hospital, is now at the New Haven Hospital.

The Massachusetts Dietetic Association. The first meeting for the fiscal year was a tea held at the Palmer Memorial of the New England Deaconess Hospital with Rosina Vance as hostess. The members were given an opportunity to inspect the Radium Laboratory of the institution.

At the October meeting members were addressed by Mrs. Eva Whiting White, whose subject was "Human Nature and Dietetics." Mrs. White is president of the Woman's Educational and Industrial Union, Boston. A discussion and report by the Community Education Committee, Clare Maylau, chairman, followed.

The reports from the delegates to the American Dietetic Association are to be put in pamphlet form and circulated among the members.

Student dietitians taking the courses in the various hospitals this year are: Children's Hospital: Helen Ridderstrom, Lynn, Mass; Roberta Bell, Spokane, Wash.; Ruth Fritsche, Traverse City, Mich.; Lucia Umphrey, Washburn, Me.; Mary Casey, Somersworth, N. H. Beth Israel Hospital: Marjorie Reed, Somerville, Mass.; Hazel Ramsey, Quincy, Mass.; Deborah Newton, Chelsea, Mass.; Devorah Akers, Cleveland, Ohio; Helen McDonald, Pictou, Nova Scotia. Massachusetts General: Alice Blumrich, Muskegan, Mich.; Jane Clark, Syracuse, N. Y.; Irma Feinberg, Quincy, Florida; Claire Hoge, Webster City, Iowa; Mary Partridge, Andover, Mass.; Jane Smith, Grand Rapids, Mich. Marion Williams, Worcester, Mass. Boston City Hospital: Anna O'Leary, Augusta, Georgia; Arvilla Morse, Laurence, Mass.; Dorothy Frank, Boston, Mass.; Margaret Griffin, Portsmouth, N. H.; Catherine Good, Cambridge, Mass. Peter Bent Brigham Hospital: Dorothy Smith, Iowa; Louise Bartels, Colorado; Winifred Ramsey, Washington; Lydia Coolidge, Massachusetts; Clare Roedel, Colorado.

Mary Tufts, a recent graduate of the Children's Hospital student course, is now assistant dietitian at Beth Israel Hospital. Frances Budd, formerly assistant at Faulkner, is now assistant dietitian at Children's Hospital.

A new active member is Verna Whipple of the Lynn General Hospital.

Milwaukee Dietetic Association. Nell Clausen, Children's Hospital, had a scientific exhibit with Dr. M. G. Peterman at the American Medical Convention, demonstrating the ketogenic diet in epilepsy.

The 26th annual meeting of the Home Economics Association at Milwaukee made possible many interesting contacts. Some of the members contributed. Susan F. West, Milwaukee-Downer College, was chairman of the hospitality committee of local arrangements. The success of this work is well expressed by an editorial "Recreations and Diversions," in the October issue of the *Journal of Home Economics*. B. Luther Griem, Gridley Dairy, was chairman of luncheon arrangements for the home-maker's section at the Wisconsin Club. The attendance far exceeded expectations. Esther Deppe, Milwaukee County Dispensary, participated in the discussion "Coöperation with Social and Relief Organizations" at one of the professional department meetings. Margaret Tyler, Y. W. C. A., presided at the luncheon for home economics in institutions.

Ada B. Lothe, Milwaukee County Institutions, discussed the "Low Cost Dietary" at the George Reed Conference at the University of Wisconsin and at the meeting of

the State Public Relief Association held at Sheboygan.

Some members enjoyed recreational periods, Katherine Lambert, Deaconess Hospital, toured Europe during June and July, visiting England and the continent. Ethel Milzer visited the western coast. She left over the Canadian Pacific route stopping at Banff, Lake Louise and Emerald Lake, with San Francisco the terminus, and returned via Salt Lake over the Union Pacific. Nell Clausen vacationed at her home in Stillwater, Oklahoma. Most of the members visited the Century of Progress Exposition one or more times during the year.

Dorothy Conley, formerly at St. Joseph's Hospital, is now assistant dietitian at Milwaukee Children's Hospital and is directing the milk laboratory and teaching infant nutrition.

Katherine Lees, St. Luke's Hospital, has accepted a position at Stephen College, Columbia, Missouri. Elsa Frankfurth has gone to St. Luke's Hospital.

Theresa Goetz, president of the association, was a member of the committee of arrangements for the American Hospital Convention. The interest in the association's booth at this convention was very gratifying.

The association's first meeting this season was a dinner at the Wisconsin Club, given in honor of visiting dietitians to the American Hospital Convention. Guests of honor were Dr. Kate Daum, Mable MacLachlan, Mary Harrington, Lenna Cooper, and Faith McAuley. The entertainment centered around the treasure table which was laden with donations from local firms, and there were "treasures" for all.

About 60 per cent of the members attended the annual meeting of the American Dietetic Association. The past year has thus made possible new experiences and stimulations which will no doubt be reflected through the coming year.

New Jersey State Dietetic Association. A meeting was held November 23, with Alberta Dent, president, presiding, and the following program: "Report of the American Dietetic Association Meetings in Chicago," M. Estelle Kribs, official delegate to the meeting, and dietitian, Hackensack Hospital, Hackensack, New Jersey; "The Relation of the Dietitian and the Dietary Department to the Hospital Organization," Dr. Paul Keller, Superintendent, Beth Israel Hospital, Newark; "Affiliation Problems and the Relation of the Affiliated State Associations to the American Dietetic Association," Mrs. Quindara Oliver Dodge, President, American Dietetic Association; "Provisions of the Proposed New Federal Foods and Drug Act," Mr. Joseph Callaway, Jr., Chief, New York Station, Food and Drug Administration, U. S. Department of Agriculture; and "Marketing Problems and Procedures of the Institution Buyer," Adeline Wood, supervising dietitian, Mt. Sinai Hospital, New York City.

Following the meeting, a tea, prepared and served by an advanced cookery class of the New Jersey College for Women, was served. Guests other than members who attended the meeting were: Mrs. Dodge, Dorothy Lenfest, Marie Louis, president of the New Jersey Hospital Association, Dean Meder of the College, Lulu Graves, Florence Dakin, educational advisor, New Jersey State Board of Nurse Examiners, and Mr. Frank Van Dyke, executive secretary, Hospital Council of Essex County, N. J. Notices of the meeting appeared in the New York City *Times*.

Mrs. Helen W. Hazen, head of the home economics department of the New Jersey College for Women, has been elected honorary member of the state association.

A luncheon was held December 2 for those connected with the recently accredited student dietitians' course at Hackensack Hospital, Estelle Kribs, dietitian, with attendance from affiliated hospitals and the home economics department of the New Jersey College.

Rochester (New York) Dietetic Association. The officers for 1933–34 are: president, Blanche Bohach, General Hospital; vice-president, Ethel Lewis, Highland Hospital; secretary, Marion Colton, Society for Prevention of Cruelty to Children; treasurer, Mary Alice Quackenbush, Park Avenue Hospital.

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The October meeting was held at the General Hospital. Dr. Estelle Hawley, nutrition counselor for the Rochester Public Welfare, gave an interesting talk on the tremendous amount of work being done by nutrition workers in public welfare work, and how they are trying to teach people to buy intelligently at all times. Ethel Lewis of Highland Hospital gave her impressions of the national convention in Chicago. The association decided to extend an invitation to the New York State Association to meet in Rochester in the spring of 1934.

The November meeting was held at the new County Hospital. Dr. Eric S. Green, medical supervisor of the institution, gave a talk on "Buying for Institutions." After the lecture the group was shown through the kitchens and cafeteria.

Marie Lurie, who presented a report at the recent meeting of the Association, is the author of a paper, "How Tuberculosis Sanatoria Are Meeting Their Social Problems," appearing in *Hospital Social Service* for November, 1933.

"Diets of Low-Income Families in New York City" are discussed in the October, 1933, *Quarterly Bulletin* of the Milbank Memorial Fund, by D. G. Wiehl.

Dr. Alfred F. Hess, noted pediatrician of New York City, and famed for his investigations on rickets, died suddenly on December 5. He was professor of clinical pediatrics at Bellevue Hospital for many years, and in 1927 received the John Scott Medal of the Franklin Society of Philadelphia for his studies "on the operative influence of light on rickets and on the remarkable effects produced by ultra-violet irradiation not only on the living animal, but also on various foods."

Cookery Wines. Pratt Institute, Brooklyn, held an exhibition of wines, sauces and spices for holiday cookery, early in December, arranged by the institutional management students. In addition to the demonstration of the uses of wines in cookery, attention was called to the use of little known seasonings, such as southernwood, cassia buds, cardamon seeds, hoarhound, etc.

The Second Medical Division, Cornell Division of Bellevue Hospital, H. J. Spencer, M.D., director, announces that in January, 1934, a series of discussions dealing with the care of diabetics, with particular attention to the planning and management of the diet by general practitioners, will be held.

Journal of Nutrition, published by the Wistar Institute, Philadelphia, as the official publication of the American Institute of Nutrition, will appear monthly, beginning with the January issue. Dr. John R. Murlin continues as managing editor.

Organizing for Clean Food. Offices have been taken in the Nelson Tower, 450 Seventh Avenue, New York City, by a newly organized committee who will study and advocate sanitary handling of foods and liquids. Homer N. Calver is in charge and among its members are Drs. Kendall Emerson of the National Tuberculosis Association; W. F. Snow, of the National Health Council; William A. Howe, of the American Association of School Physicians. Health Commissioner Wynne is an honorary consultant of the committee.

Mary Lindsley, vice chairman of the Program Committee, and manager of the Grace Dodge Hotel, Washington, has received the signal honor of election as treasurer of the Women's Joint Congressional Committee.

G. Gwendolyn Taylor, formerly chief dietitian at Louro Infirmary, New Orleans, is now dietitian at Loklau Groceterias Company, Ltd., at their head office in Toronto, Canada.

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WHO'S WHO IN THIS ISSUE

VERZ R. GODDARD received her A.B. degree from Radcliffe College in 1921, Ph.D. from Yale University in 1927. She was assistant professor of physiology at Wellesley College from 1928 to 1930 and has been assistant professor of home economics, University of California at Los Angeles, since 1930. MARIAN GARDNER, THERESA GIBSON, HELEN HARBOUR and JOSEPHINE HARDISON received degrees of bachelor of education from the University of California at Los Angeles in 1932.

ELLA OPPENHEIMER, M.D., is a graduate of Bryn Mawr College and received her M.D. at Johns Hopkins. She has always been interested in pediatrics and child hygiene. She is with the Federal Children's Bureau, Washington, D. C.

HELEN B. THOMPSON received her doctor's degree at Yale University, having studied previously at the Kansas State College and at Columbia University. She has taught in several New England colleges and at Kansas State College. She is now professor and chairman of the department of home economics at the University of California at Los Angeles. She is the author of several published papers. ANNA SCHOLTZ (Mrs. M. Scholtz) is a graduate of the University of California at Los Angeles, and is managing her own home and doing volunteer social relief work.

J. O. CLARKE, chief, central district, Food and Drug Administration, Chicago, has immediate direction of enforcement activities in connection with the Federal Food and Drugs Act in approximately twenty states in the Middle West. He has been in food and drug inspection work for about seventeen years. Prior to coming to Chicago, he was in charge of the New York station. He is a chemist, Georgia School of Technology, 1913.

MARY DE GARMO BRYAN, Ph.D., through her many years of devoted service, has always been one of the leaders in the progress of the Association. She is a past-president of the American Dietetic Association, former chairman of the Professional Education Section, and during the last two years has been inspection chairman in charge of the approved courses for student dietitians. Mrs. Bryan is a member of the JOURNAL Board, associate in the department of household arts, and head of institutional management, Teacher's College, Columbia University, New York.

MARGARET E. TERRELL is director of dining halls and residences, and instructor in the department of home economics, University of Washington. She has an M.A. from the University of Chicago. RUTH M. LUSBY is director of institutional administration, School of Home Economics, The Stout Institute, Menomonie, Wis. She has a B.S. from the University of Washington and an M.A. from Columbia University. RUTH WALKER is supervisor of lunch rooms in the Seattle public schools. She has a B.S. from Iowa State College.

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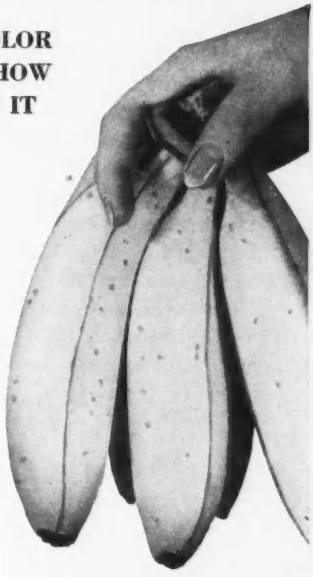

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MARY W. NORTHROP is chief dietitian and housekeeper, Harborview Hospital System, Seattle. She has an M.S. degree from Columbia University.

CHANNIE MILOWSKY LEVIN received her B.S. degree in home economics from the College of the City of Detroit. Mrs. Levin completed a course in post graduate dietetics at Harper Hospital in March, 1933. The study appearing in this JOURNAL was made as a part of her thesis during her post graduate course.

FREDERICK W. SCHLUTZ, M.D., is a graduate of the University of Maryland Medical School. He had graduate work at Paris and London, and in the Universities of Berlin and Strassburg. From 1910 to 1912 he was instructor in bio-chemistry at the University of Minnesota. He was chief of the department of pediatrics at the University of Minnesota from 1924 to 1930. Since 1930 he has been chief of the department of pediatrics at the University of Chicago. He was the founder, and director for eight years, of the Minneapolis Infant Welfare Society. He is past chairman of the section of pediatrics of the American Medical Association.

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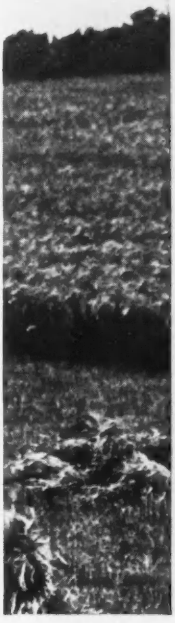

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